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CATALOGUE

OF THE

PRODUCTS OF CALIFORNIA,

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THE SOUTHERN PACIFIC COMPANY,

AT THE

NORTH, CENTRAL and SOUTH AMERICAN EXPOSITION

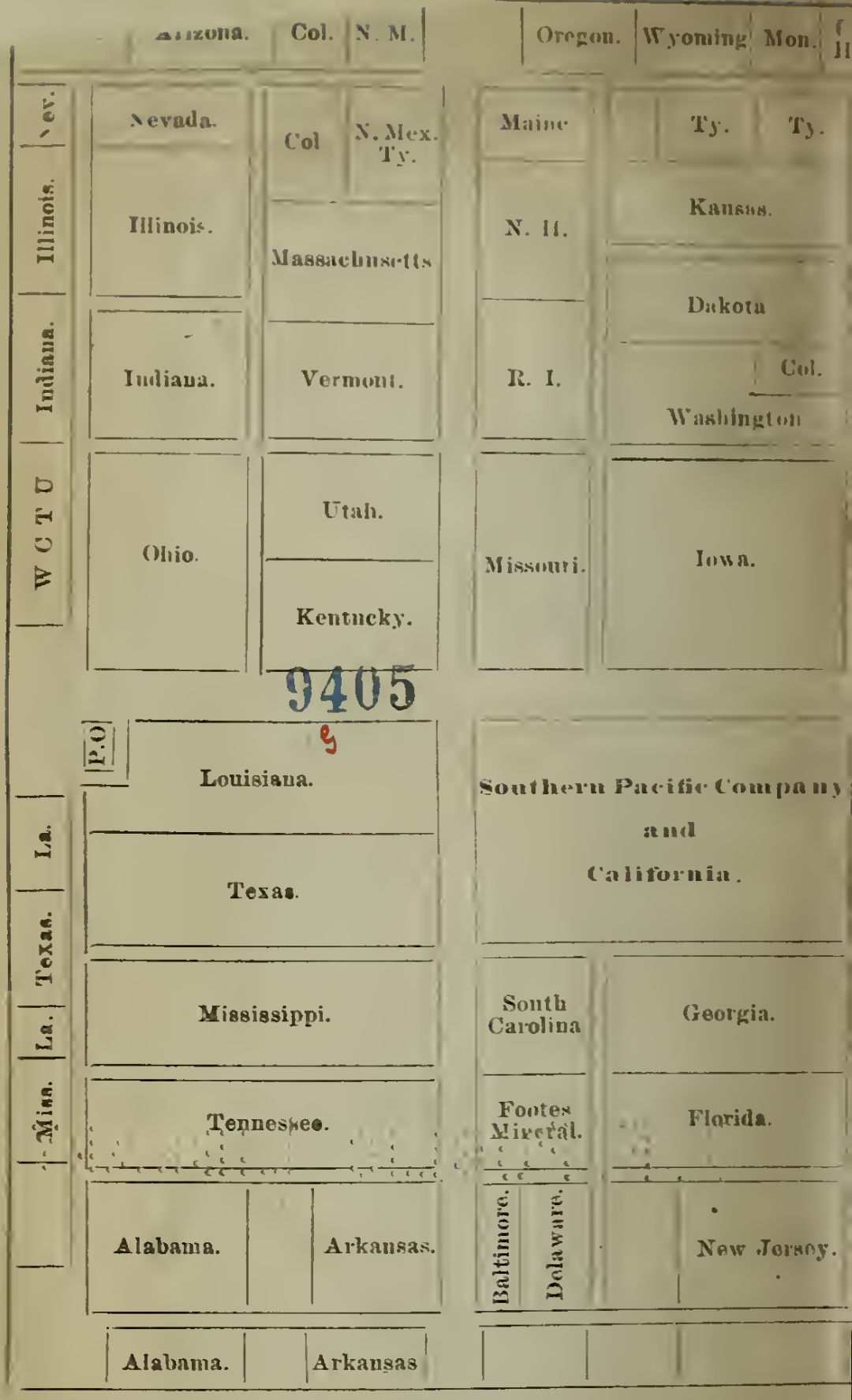
NEW ORLEANS.

Nov. 10th, 1885, to April 1st, 1886.

CHAS. B. TURRILL, Comm'r for California,

and Agent in Charge of Southern Pacific Exhibit.

NEW ORLEANS:
PRESS OF W. B. STANSBURY & CO., 38 NATCHEZ STREET.
1886.



Ground Plan, States Exhibits Building.

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to carry, and once before during the past two years I have been forced to give up for a while. In the face of repeated warnings, and under strict medical orders, my work must now stop, whether to be resumed or not, time alone can tell. Much that I intended doing during the past few weeks remains undone, and in my sick room I have had to abandon temporarily both the labors of the present and the plans for the future.

In the few words I am now able to write, I desire to return my heartfelt thanks to the kind friends who have done so much to render possible whatever success may have been achieved. I am deeply sensible of the fact that my efforts would have been vain indeed, but for the generous co-operation of the people of California, the invariable goodwill of my fellow Commissioners, and the zealous loyalty of my assistants.

CHAS. B. TURRILL.

March 31st, 1886.

CALIFORNIA.

"The State of California lies between the parallels of 32° 30" and 42° north latitude, thus stretching through nine and a half degrees of latitude, corresponding to the difference on the Atlantic coast between Edisto Inlet, South Carolina, and Cape Cod, Massachusetts. Its northern third lies between 120° and 124° 26' west longitude, the most westerly point being Cape Mendocino, whence the coast trends southeastward, with a westerly convexity, toward San Diego Bay. Between the extreme northwest and southeast corners the direct distance is 775 miles. The maximum width (between point Concepcion and the north end of the Amargosa range in Nevada.) is 235 miles, and the minimum width (between the Golden Gate and the southern end of lake Tahoe) 148 miles. The total area of the State is 158,360 square miles. Its land area alone is 155,980 square miles, being second only to Texas among the States and Territories as now defined.

"The two prominent features, extending through nearly the entire length of the State, are the snow-capped range of the Sierra Nevada on the eastern border, and the low Coast range, or rather belt of ranges, bordering the sea coast on the west. Between the two lies the great valley of California, drained from the northward by the Sacramento, and from the southward by the San Joaquin river, and these, uniting near the middle of the length of the valley, pass westward through the narrow strait of Carquines into San Francisco Bay, and thence through the Golden Gate into the Pacific Ocean. These two rivers receive nearly all their water from the Sierra Nevada, the streams flowing landward from the Coast range being insignificant. The main drainage of the Coast range is to seaward through many small rivers bordered by fertile valleys. The immediate coast is mostly abrupt and rocky, and frequently mountainous.

"The maximum width of the great valley occurs opposite the outlet of the rivers, and in its southern portion, near the south end of Tulare Lake, where it is over sixty miles. In its middle part the distance between the foot-hills of the two ranges averages about forty miles; but to the northward these ranges gradually converge, the Coast range widening and becoming higher, while the Sierra narrows and, as a whole, becomes lower, though rising locally into the Lassen peaks, and culminating, as it merges into the coast ranges, in the great volcanic mass of Shasta. Northwestward the Siskiyou mountains form a cross range of considerable elevation, an effectual natural barrier between California and Oregon, while northeastward lies the barren "lava-bed" plateau, with its numerous lakes. The great valley, may be considered as terminating northward at Red Bluff, Tehama County, although more or less valley land, but of a different character, occurs along the Sacramento River as far north as Redding, Shasta County.

"Southward the termination is much more definite, the Coast range and the Sierra being cross-connected, in a graceful sweep around Buena Vista and Kern Lakes, by the Tejon range, beyond which to the eastward lies the great arid pleteau of the Mojave desert. This range continues southward into the ranges of San Fernando, San Gabriel, and San Bernardino, all of which are often comprehended under the general but somewhat indefinite name of Sierra Madre, also applied far to the southward to the mountains representing the continental divide; but it would be better to comprehend the whole under the name of the San Bernardino range. Southward of this range lies the valley or plain of southern California, most of which is within the county of Los Angeles, with an outlier in the southwestern corner of San Bernardino, and is partly secreened from the direct impact of the coast winds by a low coast range, the Santa Ana mountains, which is, however, traversed by the country drainage from the higher ranges. Toward San Diego county this coast range divides into a broad belt, dotted with smaller ranges and interspersed with valleys and table-lands, about thirty miles wide from the coast inland to the Mexican boundary.

"Northward of the San Bernardino range lie the great Mojave and Colorado deserts, mostly high barren plateau lands, intersected by short abrupt mountain ranges, devoid of streams, and largely composed of sandy and "alkali" soils incapable of reclamation. To the northwest from the desert region numerous short water-courses descend from the steep eastward slope of the Sierra; but, although they create some fertile valleys adapted to agriculture, their volume is very small compared to the drainage of the western slope."—*Abridged from Prof. E. W. Hilgard's Physical and Agricultural Features of California.*



ADDRESS DELIVERED ON THE CALIFORNIA SPACE, GOVERNMENT BUILDING, WORLD'S EXPOSITION, JAN. 19th, 1885, BY CHARLES B. TURRILL.

CALIFORNIA.

"O California, prodigal of gold,
Rich in the treasures of a wealth untold,
Not in thy bosom's secret store alone
Is all the wonder of thy greatness shown,
Within thy confines, happily combined,
The wealth of nature and the might of mind,
A wisdom eminent, a virtue sage,
Give loftier spirit to a sordid age."

Thirty-seven years ago, this 19th day of January, gold was discovered in California, or more, properly speaking, was re-discovered, as its presence in many portions of the State had been known for about a century.

The history of the gold excitement is filled with interest. The struggles, trials and triumphs of that time made men heroes. The lives of the "Pioneers" of California were more than ordinary.

It is a remarkable thing that gold excitement, and, as we now review it, we are surprised at its magnitude and astonished at the rapidity with which it spread. Hardly a hamlet throughout the broad country but felt a ripple of that great tide surging onward and away from the settled portions of the Union, out over the broad expanse of wild country beyond the muddy Missouri, up and across the Rockies, down and over the tiresome deserts into the confines of the Sunset land. And all along that pathway of treasure-seekers the bones of dead men marked the miles. It mattered not, though many turned back, discouraged and warned of troubles, dangers, death ahead, the counsel was unheeded and the eager crowds kept onward.

Men from every station, nation, clime were the integral parts of that great procession. The boy from school, the mechanic from his bench, the student from college, the gambler, the lowly preacher, the old man tottering to his grave, all were there. And women, the friends in trial, the companions in prosperity, and throughout all the shapers of our destinies, also mingled in the throng—women on foot, on horse, in wagons, consoling, encouraging, laughing, weeping, caring for the sick, nestling their babes to their breasts, doing all that God's best gift to man could do to make easy and pleasant the journey of their loved ones.

The trip "across the plains" was but one of the means of reaching the new El Dorado. Every manner of craft that would float or sink was pressed into service. Across the Isthmus and around Cape Horn thousands pursued their way.

The social problem in California was interesting. All classes and conditions of men were thrown into daily, nightly intercourse. Old occupations were cast aside, and all used alike the pick and pan, the "rocker" and the "long tom." Virtue and vice lived together; sterling integrity and base deception were brought face to face. Courage came from conflict, integrity from nature or fear of speedy retribution, bravery from trials, but hope was an abiding inspiration.

Probably no section of the world ever received a more heterogeneous population, nor so speedily laid out for itself a more magnificent destiny. All the elements of grand possibilities were there, and the achievements of thirty-seven years speak to the world to-day and record what has been accomplished.

Scarcely one in a hundred of all those who hastened to the new land of gold had the least intention of remaining there longer than barely the time necessary to amass a fortune. Lovers left their sweethearts at the gate promising soon to return and bring with them the glittering gold that would make the journey of life a pleasure-voyage; husbands bade the good wives and the little ones good bye for a season. But who can predict the future? There was a charm about the far-off land which was irresistable. If the youth returned to wed, the honeymoon was oft times passed in journeying back to California. Wives, mothers, sisters, children were sent for. Soon happy homes smiled over lovely valleys, and mountain gorges echoed the prattle of little ones. The plains began to lay aside their garments of wild oats and put on the clothing of orchard, vineyard and grain field; school-houses and churches dotted the landscape; prosperous towns grew, cities expanded, and a State was born. It was an Arabian tale told in the prose of every day life.

The changes of these few years have been marvelous. Eastern visitors expecting to find a frontier are disappointed. What they seek is further eastward. Instead of a province just beginning to thirst for commerce manufactures, literature, science and art, they find a State that sends her products to every clime; that manufactures not only such things as are made in other States, but many more; that has given to the world the names of men of letters whose fame will live into other decades; that has been a fruitful field of scientific culture and achievements; that has given inspiration to native artists, whose works of brush or pencil are highly prized and eagerly sought.

California is an empire, possessing in herself all the elements of success and gifted with boundless resources. She is four times the size of New York, twenty-four times as large as Massachusetts, and lacks but a fraction of the area of France. Her seacoast is 1100 miles long, and within her boundaries are found all the variations of climates from the semi-tropic valleys of Southern California to Alpine summits adown whose granite slopes living

glaciers plow their slow and silent way; and as her climates are varied to suit the differences of latitnte and elevation, harmonized, bleuded a:d con. trolled hy the configuration of her mountain systems and the warm ocean currents that kiss her shores, so are her prodnctions diverse and multiform. In the gardens of her people almost all over the State, even high on the monntain sides and low in her hroad valleys, the palm tree and the pine thrive equally well side by side. In her orchards in nearly every section of the State the apple and the orange grow together. Her apples are excellent and her oranges superh. Throughont the State, from San Diego, near the Mexican boundary, and northward for about 700 miles, the olive tree grows as though it were a native. The vine thrives almost everywhere, and grapes, wine and raisins gladden the heart of the husbandman. There is not a fruit, except those of pnrely tropical climes, but what thrives, bears ahundantly and whose product is the finest in almost every portion of California. There a man may literally sit under his own vine and fig tree, and possessing his own home, surrounded by his children, attended by his wife, may know how blessed it is to live.

On this anniversary day, that recalls the finding of a nugget of gold that infnsed life and hope, desire and achievement, into a section of the conntry where a few hunters were, which was controlled hy a foreign power and possessed hy the good Mission Fathers, whose chief ambition seemed to he to pass as easily as possible the time that intervoned hetween hirth and death, on this day Californians are proud to point not only to the agricnltnral and horticultural hut also to the mineral wealth of their State. The merits of mining have neither heen forgotten nor ignored. A State which possesses gold deposits in nearly every one of fifty-two conuties, and which has added over $1,600,000,000 in gold to the wealth of the world, and $26.000,000 in silver to mankind, need not bo ashamed of her record. And California's mineral resources are not confined to gold and silver, they are rich in many directions, and the pick in the mine and the plow in the field keep pace with each other.

A State which prodnces large amounts of numerous products must needs engage in extensive and diverse mannfactures—especially where broad stretches intervene between the field of prodnction and manufacturing centres.

It is a mistake to snppose that California for her prosperity is dependent upon any single industry. For many years snceeeding the finding of gold, which we to-day celebrate, it was snpposed that the "Qneen of the Pacific" was gifted with but one alluring charm. No one thonght of anght but gold. Mining was the industry of the people, and was engaged in, either singly or in association, hy the majority. Everything was imported, and owing to the distance and relative inaccessibility of the State, prices were high and the miners paid a large share of their rich and abundant earnings for the necessaries of life. Storekeepers fattoned on the needs of their customers.

In those early mining days California was practically a land of hachelorhood. A woman in the "diggins" was the "observed of all observers." If

she passed from one mining camp to another, work was suspended along the route she pursued, and they who were heardless boys when they left their mother's side, rough-looking, unkempt miners now, gathered around to do honor to the lady who visited their section. It mattered not how scanty her physical charms, she was yet a woman, and women are kind, generous, helpful, beautiful. It mattered not if she was a wife. Her husband must stand aside and patiently witness the adoration of men, many of whose eyes had not seen a female, yea for many years. It was not unfrequent that these occasions should be not only an event in the "camp," but also a financial episode in the life of the woman. The miners were generous to a fault, and "dust" and "nuggets," in the absence of coin, were poured into the lap of her who reminded those hard-working men of mothers, sisters, sweethearts, wives, who were left behind in "the States."

But after a few years mining became irksome to some. These looked about the country and saw other sources of livelihood. At that time flour was imported from Chili. Some thought wheat might be raised in the broad valleys where the wild oats flourished so luxuriantly. These were laughed at by others, and the assertion was made, and many times repeated, that grain could not be raised. The climatic conditions were different from those of the Eastern States. It is a feature of California that the summer is long and rainless. Wise heads stated that it was folly to plant grain where there was no rain to assist its growth during the summer. Experiments were made, however, and although many failures followed, it was soon found that grain would grow, and it was a little while after discovered that the wheat, oats and barley were superior. Men who had predicted failure were compelled, reluctantly, to admit that they had never seen such grain. California imported no more flour.

Cattle raising had been engaged in by the Spaniards. The old missions were rich in herds, whose hides and tallow alone were utilized. After the gold hunters came there was a market for beef. But the American element were too strong for the Spanish, and the monopoly of stock was taken from one race and scattered among the newcomers. The broad plains became cattle ranges.

Mills had been established in a few isolated localities, and a limited market for lumber was supplied. As miners' families came the cabin and tent was abandoned. Houses were built. Mills were required, and the great timber resources of California were made known. Framed houses were shipped by vessel to San Francisco and distributed through the State. These came principally from Boston. It was my fortune to be born in one. These houses were constructed of Eastern pine.

From Dec. 24, 1849, to June 22, 1851, six great fires scourged the city of San Francisco, which was then built almost entirely of Eastern pine and cloth houses. In round numbers, $28,000,000 of property were destroyed in this period of a litle over eighteen months. Several times the city was almost totally wiped out of existence. Such things could not be. It had been demonstrated by the missionaries that the redwood, which grows all along the

coast range of mountains, was to all intents non-combustible and almost imperishable. Redwood, the timber of which all the structures on this space are built, the beautiful polished specimens of which you see around you, and the same species as the tree on which I am standing, was selected. Although large quantities of this timber have been cut, although a majority of our houses are built of it, the supply is practically inexhaustible. California possesses many other valuable timbers, and the discovery of the uses of these created the important lumbering interests of the State.

In a little while scattered experiments demonstrated that California would produce fruit—would produce excellent fruit and an abundance of it. And not only in favored sections, but all over the State. The finest peaches ever raised in California, and that is saying a great deal, were grown where gold was found thirty-seven years ago to-day. And men were laughed at for trying to raise fruit in California. But the laugh is on the other side now. To-day there is scarcely a variety of fruit which grows outside the tropics but what does well in numerous sections of my State, and many flourish and bear abundantly in nearly every portion. Our horticulturists have had many problems to solve, and they have applied themselves to them with eagerness and earnestness, and now are rewarded many fold for their time, money and patience. Some varieties, which are esteemed in the East and West, prove worthless with us. As the flora of California is almost entirely distinct from that of the regions east of the Rockies, so is her assortment of varieties in fruits, and many of the species themselves entirely different from those grown on this side of the backbone of the continent. We have originated varieties and are constantly extending experiments. California is a land of grapes—but not the grapes you grow. Almost all of ours are varieties imported from France, and our viticulturists are ransacking the vineyards of Europe for the best kinds of wine, raisins and table grapes. There was a time when all that was desired were grapes; now we seek all the minor distinctions which belong to individual kinds, some for the bouquet they give the wines, others for body, still others for color and so on. Very few of the American varieties are grown, but that is an oversight that will be remedied in time. There was a charm about the foreign grapes; the bunches were, many of them, immense and the berries like small plums. A few, chief among whom is the well-known Prof. Husmann, formely of Missouri, are introducing the American varieties. But this is not the time or place to go extendedly into the subject of our fruits. Suffice it to say that the fruit industry in California is one of her most important sources of wealth, and one which, from her situation and condition, cannot be overdone.

Many years ago it was proven that silk culture was practicable in our State. It is now demonstrated beyond the peradventure of a doubt that sericulture is destined to become extensively engaged in. Experts have given it as their verdict that California silk is superior in quality to that of almost any other silk producing country. It was my pleasure a few days ago to see a French report on some of our silk, which was forwarded without selection, and which was most highly commended. This is an industry that we gladly encourage.

COMMENTS OF THE PRESS.

Southern Exposition, Louisville.

"It is hardly possible to speak in adequate terms of praise of the overwhelmingly magnificent display which will be made by the Southern Pacific Company; fourteen carloads of whose goods are being put in position. This display will crowd 15,000 square feet of space in the north end of the building, and is destined to attract the same admiration which was universally accorded to it at New Orleans. It is in charge of Mr. C. B Turrill, of San Francisco, and is intended to present a perfect and faithful picture of California. It embraces over seven thousand specimens of the wonderful products of the 'Golden State,' and will be an exposition in itself."—*Louisville Post*, July 30, 1885.

"In wondering through this exhibit one may get a very adequate idea of what California is like, for the pictures give the view, and the specimens shown realize the products. Even the color and character of the soil are shown, for samples of earth are exhibited along with the other things."—*Louisville Courier-Journal*, Aug. 18, 1885.

"The exhibit of the productions of California, made by the Southern Pacific Company, is acknowledged to be the finest and most interesting of the kind that has ever been made at our Exposition. Railroad displays, as such, are the features of great exhibitions; but such a display as the one in question is much more than an ordinary railroad affair. It is in itself a complete exposition, showing, as it does, the various industrial resources of a great State, about which so much has been written, and regarding which so little is actually known by the great mass of the American people. The manager of the display has wisely arranged the products by counties, as far as possible, and has grouped these county exhibits in the general geographical order of the arrangement of the counties in the State."—*Louisville Evening Post*, Aug. 28. 1886.

"The California display at the Southern Exposition shows up somewhat better than at New Orleans. The space occupied is about the same, but the exhibits are much better arranged. Charles B. Turrill, who has the exhibit in charge, has profited by his experience, and the present artistic and comprehensive collection does him the greatest credit.

"The display is California in miniature. It attracts the greatest interest among the visitors. The State has so long been the wonderland of the newspapers and magazines, that it has in a measure lost its novelty in prints. People here have become more or less tempted to regard the reports of its wonderful wealth and prodigious fertility of soil as mere exaggerations. It needed an actual introduction to convince them that the reality was far greater instead of less than the published accounts. This the display has done. * * * *

"It is the prodigious variety of products, the amazing diversity of vegetable wealth, which captivate attention, and of these the average visitor to the Exposition has had but the faintest and haziest of ideas. * * *

"The California exhibits are among the most interesting in the whole Exposition, and reflect great credit upon those to whose enterprise the collection is due. That it has been intrusted to competent hands no one can doubt who has paid it a visit."—Louisville Correspondence in *San Francisco Chronicle*, Sept. 10, 1885.

"In looking over the display of the productions of California, one thing that surprises the visitor as much as anything else is the great progress that has been made in the Golden State in so short a time."—*Evening Post*, Louisville, Sept. 4, 1885.

"'California Day' equalled 'Tobacco Day' in the matter of attendance. * * *

"The California exhibit was the centre of attraction during the day. The luscious fruits, mammoth trees, golden and silver cubes, sparkling wines, flint grains, and other attractions of the exhibit were inspected by thousands upon thousands. It was a splendid advertisement of the Golden State, and from it she will reap incalculable benefit."—*Louisville Times*, Oct. 16, 1885.

"Yesterday was California Day at the Exposition, and nature, as if aware of the importance of the occasion, seemed to have transported one of the perfect days so peculiar to the Golden State to the region of blue grass. * * *

"The main attraction during both day and night in the building was very properly the great California exhibit made by the Southern Pacific Company, and occupied 15,000 feet of space in the north portion of the building. It is in charge of Mr. Charles B. Turrill, and he, with half a score of assistants, was kept busy from morning till the closing hour entertaining the thousands who came to inspect the wonderful display from the greatest of the Western States. With a hospitality that would do credit to native Kentuckians, those in charge of the display opened bottle after bottle of sparkling wine made from grapes grown in California, the flow ceasing only when late in the evening the supply was exhausted."

"The exhibit of California products is unquestionably one of the finest and most complete ever made in Louisville. * * * In the exhibit is a complete reflex of the wonderful resources of California. Its splendid grain, its toothsome fruits, its excellent woods, cotton, tobacco, nuts, honey, raisins, prunes and dried and canned fruits of all sorts, woolen and cotton goods leather, wines, brandies, olives and olive oil, form a display of noticeable superiority and great interest. Add to these, etchings, photographs, and paintings without number of scenery and people, and places and objects, a splendid botanical display and many implements of historic interest and you have a collection that could not be replaced for a cool $100,000 and years of toil and trouble."—*The Commercial*, Louisville, Oct. 16, 1885.

"What a miserable show makes the State of Kentucky, consisting of some specimens of coal, minerals and tobacco leaves; by the side of the grand display of the State of California, which offers to the visitor the most diversified minerals, rural products, manufactures, fruit, grapes, and their manufactures, wines, brandies, and raisins. In Kentucky the spirit of enterprise is wanting. In California each county displays more objects showing progress than the whole State of Kentucky does towards furthering immigration."—*Louisville Anzeiger*, (leading German paper) Oct. 18, 1885.

"The enterprise shown by the Southern Pacific Company through their active and public spirited agent, Mr. C. B. Turrill is worthy of the great State whose resources they advertise. The displays at the Exposition are proof of the mineral and vegetable richness, as well as the enterprise and activity of the people of California."—*Commercial*, Louisville, Oct. 24, 1885.

American Exposition.

"The weeks of hard work that Commissioner C. B. Turrill, has devoted to the arrangement of his exhibit have commenced to bear fruit. A glance at the vast space occupied, now something like 34,000 square feet, will at once show how much care and judgment have been exercised. It is one thing to have a rich display of the wealth of a State and it is an other thing to so dispose of each individual class of exhibits that the whole harmonizes, that the eye may wander over the *tout ensemble* unoffended by errors of taste, by overcrowding, or by want of system. In these important respects the success attained in California's display is very striking."

"Such are a few only of the countless attractions of this space. It would be entirely impossible to do justice to them in the limits of this article, but one observation remains to be made. The Government building in addition to its noble exhibits contains many cosy and most elegant headquarters, where the Commissioners are in the habit of welcoming their friends and compatriots. Commissioner Turrill has offices and reception rooms that will be in respect of fitting up and general completeness, in every way in accord with the premier position occupied by his State: but it is to his credit that whilst the rest of his exhibit was being prepared for public inspection the genial Commissioner has been busy with sterner matters than upholstery and esthetic effects. The hard work is now over, and Mr. Turrill can turn his attention to his headquarters, which, if treated with the tact and discrimination shown on the rest of the space, will soon become one of the most popular in the Exposition."—*Daily States*, New Orleans, Dec. 2, 1885.

A LESSON LEARNED FROM CALIFORNIA.

No person can look through the extensive and instructive exhibit which is being made by the State of California under the direction of Commissioner C. B. Turrill, without being struck with the emphasis laid by California on the grain, wine and fruits of that region, while the entire subject of the mineral wealth of the quondam golden State is left entirely in the background.

* * *

A most important part of the California exhibit is the large and beautiful display of dried fruits.

There are raisins, figs and prunes equal in appearance to any imported and of excellent quality, and these articles are produced in large quantities and with commendable cheapness. In addition to these there are dried apples, peaches, pears and dessicated berries of various sorts. Simple and economical apparatus have been contrived for drying all fruits on a large scale, and the industry, not only in California, but in Utah, Oregon and other States, has become one of great importance.

California goes a long way towards supplying the Pacific coast trade with such articles of home production, while the California wines are competing with the lower grades of French and German wines in every part of this continent.

In the matter of dried fruits the people of Louisiana, Mississippi, Alabama, Florida and Texas might well learn a lesson from California.—*Daily Picayune*, New Orleans, Dec. 31, 1885.

"Perhaps the large and handsome California exhibit, varied and representative as it is, contains no section that more abounds in interest to the general visitor than the wine section. Those who live elsewhere in the United States than on the Pacific coast are apt to attach too little importance to the industry of wine culture, an industry that is increasing so rapidly that it will soon rival that of France itself. The industry deserves close attention and study, and no better opportunity could be afforded than through the medium of the admirable exhibit made in the California department by Mr. F. Poundorff, the viticultural representative of the great Pacific State, ably co-operating with whom is Mr. C. B. Turrill, California Commissioner."—*Times-Democrat*, New Orleans, Jan. 14, 1886.

"In an article in the *Daily States* a few weeks since, an outline was given of the leading features of the California exhibit and as since then a vast number of additions have been made, the time is now ripe for a continuance of this very interesting subject.

"On the former occasion, and for excellent reasons, the headquarters were not ready for the reception of guests. Two handsome, lofty and cheerful rooms brightly curtained and tastefully furnished now form a very desirable place of call, not only for visiting Californians but for all who care to avail themselves of the pleasant welcome always extended to strangers by Commissioner Turrill.

* * * * * * *

"And here, for the present, this sketch must end, but not without a word as to the gentleman by whose labor, indefatigable zeal, and utter disregard of time, trouble or expense such splendid results have been achieved. The saying, *si monumentum quæris circumspice*, was never more truly applicable than in this instance, and the Golden State has equal reason to be proud of her exhibit and of her representative."—*Daily States*, New Orleans, Jan. 7, 1886.

WHAT THE CALIFORNIA EXHIBIT TEACHES.

There is no display at the Exposition which has excited greater interest or made a more favorable impression than that from California. The *Picayune* has had occasion to speak of the lesson that California teaches the Gulf States. Similar lessons are daily being imparted to the thinking citizens of other sections of our country. Space forbids dwelling on the countless resources and productive prodigality of the Golden State, as shown in her display. Truly it is a land flowing with milk and honey, a land of wonderful promise and marvelous fulfillment. Mr. Chas. B. Turrill, the Commissioner for California, while calling attention to his native State, makes the statement that in California a man may make a good living easier and at a less expenditure of time, energy and money, than elsewhere.

Go where one will, on the streets, in the cars, or in stores, and you hear praise of the California display and the State from which it comes. Frequently in the exhibition buildings one meets those who have carefully studied the California exhibit and resolved to make their homes in that State. The late cold weather has caused a still larger number to turn their attention in that direction. Mr. Turrill has had many calls from gentlemen who several years ago went to other States to engage in fruit raising, and whose little all has been taken away this winter by the relentless King of Cold. Many of these are making their arrangements to remove to California, where they can engage in the culture of fruits without the possibility of such a misfortune as has just befallen them, as the evenness of the climate of California assures success in the production of the finest fruits.

If any one wishes to inquire into the interest that centres in the California exhibit let him examine into the methods of its get-up. The finest gems are improved by their settings, and the most interesting and beautiful exhibits are rendered more so by their arrangement. But even in these, when carried out with the most painstaking care, there is frequently a something lacking. It is not enough to show a product, but it is important to exhibit that article in all its forms and processes of manufacture. This has been one of the aims in the California exhibit, which for beauty, completeness and attention to important minor details is a marvel of faithful, patient and effective work.

The exhibit from California last year was largely made by the Southern Pacific Company, by which corporation Mr. Turrill has been employed for several years. It was through the courtesy of that company, and its generous co-operation, that he was enabled this year to accept the position of Commissioner for his State and make the display he shows. In this day, when there is so much said against railroads, it is a pleasing exception to find one of the greatest transportation lines in the world exerting all the energies of its numerous departments, through the agency of a specially delegated employee, in exhibiting to the world the beauties, attractions and resources of a State. While there are those who will ever say that such exhibits made by railroads, or

through their help return money to such companies in the settlement of lands adjacent to those roads, there can be no doubt in the minds of all that such collateral revenue returned to a railroad is but a small fraction in comparison to the wealth added to a State by such agency, and through an accession of taxable wealth, an increase of profitable production from an extended area of high tilled agricultural lands, orchards and vineyards, and through the expansion and creation of manufacturing enterprises, the outcome of samples of crude products shown to manufacturers attending great expositions. That this public spirit on the part of the Southern Pacific Company is fully appreciated at home is shown by the fact that the people of California have taken the deepest interest in the matter, and have contributed to the work so liberally of the products of their farms, mines and mills, literally joining hands with the railroad in advertising the State.—*Daily Picayune*, New Orleans, Feb. 5, 1886.

"The large and admirably arranged display of California in the Government Building has already been the subject of several articles in the *Daily States*. It is one of the most important features at the Exposition, and while in point of size it almost doubles that of any other State, the manner in which each separate section has been made to blend into a whole, and to do its allotted duty in the carrying out of a fixed idea, reflects even greater credit on the judgment, fore-sight and skill of Commissioner C. B. Turrill, whose untiring efforts must be of incalculable value to his State. An extensive area has been assigned to the exhibits of California's merchants, manufacturers and inventors, and from among the following interesting items have been recently gathered: * * *"—*Daily States*, New Orleans, Feb. 13, 1886.

LIST OF BOOKS, PAMPHLETS, AND PAPERS DISTRIBUTED.

This list, including all the more recents and valuable works relative to the different sections of California, will be of value to parties desiring full information.*

A very few scarce pamphlets have been included in the list, which, while the supply held by the Commissioner, is nearly or quite exhausted, can be obtained on application to the authors or publishers.

Several of the pamphlets treat of a number of different counties and in their cases, strict classification has been impossible.

It had been the Commissioner's intention to insert a list of valuable works relative to California, but as the ir name is legion it has been found impracticable.

Annual Report of State Board of Horticulture, 1883.
Annual Reports of State Agricultural Society, 1883 and 1884.
Bi-ennial Report State Board of Horticultural, 1884.
First Annual Report of State Board of Silk Culture, 1884.
Viticulture and Viticulture in California. Published by C. A. Wetmore.
Tourists' Illustrated Guide to the Celebrated Summer and Winter Resorts of California, by B. C. Truman, 1885.
Homes and Happiness in the Golden State of California.
Homes and Happiness, (Germau Edition.)
California, the Cornicopia of the World.
Prosperous California.
Railroad Gazetteer. Published by H. S. Crocker & Co.
To the Pacific Coast via the Sunset Route.
Bentley's Hand Book of the Pacific Coast.
Homes in Northern California, published by the Northern California Immigration Association.
The Third Annual Report of the Immigration Association of California, 1883 and 1884.
Propagation of the Vine, by C. A. Wetmore.
California Guide Book. Published by the Pacific Coast Land Bureau.
The Lands of the Southern Pacific Railroad Company of California.

* I shall take pleasure in sending any of these publications to interested persons who will address me care of the Southern Pacific Co. San Francisco.

C. B. TURRILL.

Folder Southern Pacific Railroad.
California Red Wood, (Leaflet.)
Directory of the Grape Growers of California. Published by "S. F. Merchant," San Francisco.
Report of Third Annual State Viticultural Convention.
Map of California. Published by the Immigration Association of California.
Report Fifth Annual Citrus Exhibition, Riverside.
Resources of Southern San Joaquin Valley.
Resources of Sacramento Valley and Tributary Country,
Reports of State Mineralogists, Henry G. Hanks.
Reports of State Viticultural Commission.
Reports of State Engineer.
Reports on The Physical and Agricultural Features of the State of California. By E. W. Hilgard.
Cards of All the Leading Hotels in California.

ALAMEDA COUNTY.

Map of Choice Wine and Fruit Lands, Livermore Valley.
Leaflet published by the California Immigration Ass'n, San Francisco.
"Homes in Northern California" published by the Northern California Immigration Ass'n. Sacramento.

BUTTE COUNTY.

"Resources of Butte County." Published by the Weekly Mercury, Oroville.
"Catalogue of Trees," Rancho Chico Nursery, Chico.
"Homes in Northern California," published by the Northern California Immigration Ass'n, Sacramento,
Leaflet published by the California Immigration Ass'n. San Francisco.

COLUSA COUNTY.

"Homes in Northern California." Published by the Northern California Immigration Ass'n., Sacramento.
Leaflet Published by The California Immigration Ass'n. San Francisco.

CONTRA COSTA COUNTY.

"Contra Costa County," published by Pacific Coast Land Bureau, San Francisco.

EL DORADO COUNTY.

Leaflet Published by the California Immigration Ass'n, San Francisco.
"Homes in Northern California," Published by the Northern California Immigration Ass'n. Sacramento.

FRESNO COUNTY.

"Fresno County, Its Offering for Settlement," published by

Pacific Coast Land Bureau, San Francisco.
"Fresno," by A. D. Bell.
"Fresno County," by Tucker and Hogue, Fresno.
Map of "Fresno Lands," McAfee Bros, San Francisco.
"Map of a Portion of Fresno County."
"Fresno County Land Office," W. P. Haber, Manager, Fresno.
"Fresno Real Estate Circular," Cory and Braly, Fresno.
"Fresno County for Health, Profit and Contentment," by M. Theo. Kearney.
"Prospectus of the Barton Vineyard Co. of Fresno."
"Map of Sierra Park Vineyard and Vicinity," Fowler,
"Resources of Southern San Joaquin Valley," Published by California Immigration Association, San Francisco.

MARINE COUNTY.

"San Rafael, Illustrated," published by W. W. Elliot & Co. San Francisco.

MONTEREY COUNTY.

"Monterey, As a Winter Resort."

NAPA COUNTY.

"Napa County Land Register," published by Hunt & Wood, Napa.

NEVADA COUNTY.

"Homes in Northern California," published by Immigration Ass'n. in Northern California.
"Resources of the Sacramento Valley and Tributary Country," published by Immigration Ass'n. of California, San Francisco.
Leaflet published by the California Immigration Ass'n., San Francisco.

PLACER COUNTY.

"Homes in Northern California," published by the Immigration Ass'n., in Northern California.
"Placer County," published by Immigration Ass'n. of California, San Francisco.
"Colfax Lands," M. Lobuer Colfax.

HUMBOLT COUNTY.

"Description of Humbolt County," published by Chamber of Commerce, Eureka.
"Annual Report of Chamber of Commerce," Eureka.

KERN COUNTY.

"Resources of Southern San Joaquin Valley," published by Immigration Association of California.

LAKE COUNTY.

Leaflet published by the Immigration Association of California, San Francisco,

LOS ANGELES COUNTY.

"Illustrated Los Angeles Herald."
"Southern California Illustrated," by George Rice, Los Angeles.
"A Southern California Paradise," published by R. W. C. Farnsworth, Pasadena.
"Home Land of Sun Shine and Flowers," published by J. M. Boel, Los Angeles.
"The Santa Ana Valley," published by the Santa Ana Valley Immigration Association.
"Anaheim," published by the Anaheim Immigration Association.
"Report of Los Angeles Board of Trade."
"Map of Santa Anita Rancho," N. Carter, Sierra Madra.
"Southern California as a Health Resort," Published by The Los Angeles Board of Trade.
Circular of "St. Elmo Hotel," Los Angeles.

SACRAMENTO COUNTY.

"Homes in Northern California," published by the Northern California Immigratian Association, Sacramento.
"Resources of the Sacramento Valley," published by Immigration Association of California, San Francisco.
"California for Fruit Growers and Consumptives," by S. S. Southworth, Sacramento.
Catalogue of Seeds, W. R. Strong & Co., Sacramento.

SAN BERNARDINO COUNTY.

"Description of Redlands."
"Ontario," published by Chaffey Bros. Ontario.
"Etiwanda," published by Chaffey Bros. Ontario.
"The great Interior Fruit Belt of Southern California," L. M. Holt, Riverside.

SAN DIEGO COUNTY.

"Map and Description Temecula Lands," Charnoc, Morrill & Robinson, Los Angeles.
"El Cajon Land Company Bulletin No. 2," San Diego.

SAN FRANCISCO.

PUBLICATIONS OF IMMIGRATION ASSOCIATION OF CALIFORNIA NO. 10, CALIFORNIA STREET, SAN FRANCISCO.

Map of California, Showing Government Lands Suitable for General Farming, Fruits and Vineyards, Open to New Settlers under the Homestead and Pre-emption Laws. (English and German).
"California," (Valuable Pamphlet and General Information,) (English, French and German Editions).
"Resources of the Sacramento Valley and the Tributary Country,"

"Resources of The Southern San Joaquin Valley."
"Description of San Luis, Obispo County."
"Capital Necessary for New Comers." (Leaflet).
"Profit of a Ten Acre Orchard." (Leaflet).
Series of Leaflets Descriptive of the following Counties; Amador, Butte, Colusa, El Dorado, Lake, Lassen, Modoc, Nevada, Placer, Plumas, Sacramento, Sutter, Solano, Shasta, Siskiyoug, Sierra, Tehama, Trinity, Yuba, Yolo.
1st, 2d and 3d Annual Reports.

PUBLICATIONS OF THE PACIFIC COAST LAND BUREAU, 22 MONTGOMERY STREET, SAN FRANCISCO.

"California Guide Book," (containing a description of each county in the State.)
"Fresno County."
"Tulare County."
"Contra Costa County."
Various Maps.
"Railroad Gazetteer," published by H. S. Crocker & Co., San Francisco.
"Tourists' Illustrated Guide," Maj. B. C. Truman, Southern Pacific Co., San Francisco.
"Homes and Happiness in the Golden State of California," by Maj. B. C. Truman, Southern Pacific Co., San Francisco.
"Prosperous California," *Morning Call*, San Francisco.
"A Guide to California," by Chas. Nordhoff, published by Passenger and Ticket Department Southern Pacific Co., San Francisco.
"Bentley's Hand Book of the Pacific Coast," W. R. Bentley, San Francisco.
"Lands of the Southern Pacific Railroad Company," by Jerome Madden, Southern Pacific Co., San Francisco.
Lands of the Central Pacific Railroad Company, W. H. Mills, Southern Pacific Company, San Francisco.
"California, the Cornacopia of the World," T. H. Goodman, G. P. & T. A., Southern Pacific Co., San Francisco.
"California Notes," Mammoth Trees, Yo Semite Valley, Gold Mines, etc.; by Chas. B. Turrill, San Francisco.
"Reports of California State Mining Bureau," Henry G. Hanks, San Francisco.
"A Memoir on Olive Growing," by F. Pohndorff, 204 Montgomery street, San Francisco. (Price 50 cents.)

SAN JOAQUIN COUNTY.

"The City of Stockton, and the Great San Joaquin Basin." published by the Board of Trade, Stocktou.

SAN LUIS OBISPO COUNTY.

"Descriptive Leaflet," published by the California Immigration Association, San Francisco.

SANTA BARBARA COUNTY.

"Santa Barbara As It Is," *Independent* Santa Barbara.
"A Business Man's Estimate of Santa Barbara County," b
J. J. Perkins, Santa Barbara.
"A Treaties on Olive Culture," by Ellwood Cooper, Sant
Barbara. (Price 50 cents.)
"Forest Culture of the Eucalyptus," by Ellwood Cooper
Santa Barbara. (Price $1.00.)

SANTA CLARA COUNTY.

"Resources of Gilroy Township." Gilroy.
Catalogue of Trees and Plants, John Rock, San Jose.

SHASTA COUNTY,

"Descriptive Circular of Shasta County," published by th
Shasta County Immigration Association, Redding.
"Homes in Northern California," published by the North
ern California Immigration Association, Sacramento.
Leaflet, published by the California Immigration Associa
tion, San Francisco

SOLANO COUNTY.

"Homes in Northern California," published by the Northern
California Immigration Association, Sacramento.
Leaflet, published by the California Immigration Associa
tion, San Francisco.

SONOMA COUNTY.

"Resources of Santa Rosa Valley," by R. A. Thompson
Santa Rosa.
"Sonoma County Financial Report, 1884," by R. A. Thomp
son, Santa Rosa.
"Descriptive Circular of Sonoma County,"
"Sonoma County Land Register and Business Directory,
published by G. E. Gross, Santa Rosa.

SUTTER COUNTY.

"Homes in Northern California," published by the Northern
California Immigration Association, Sacramento.
Leaflet, published by the California Immigration Association
San Francisco.

TEHAMA COUNTY.

"Tahama County," published by McAfee Bros., San Fran
cisco.

TULARE COUNTY.

"Tulare County," published by the Pacific Coast Land
Bureau, San Francisco.
"Southern San Joaquin Valley," published by the Immigra
tion Association of California, San Francisco.

YOLO COUNTY.

"Homes in Northern California," published by the Northern California Immigration Association.
Leaflet, published by the Immigration Association of California.

YUBA COUNTY.

"Homes in Northern California," Published by the Northern California Immigration Asssociation, Sacramento.
Leaflet, Published by the California Immigration Association, San Francisco.

LIST OF NEWSPAPERS AND JOURNALS DISTRIBUTED:

"Overland Monthly," San Francisco.
"San Francisco Merchant," San Francisco.
"Daily Report," San Francisco.
"Alta California," San Francisco.
"California Spirit of the Times," San Francisco.
"Daily Bulletin," San Francisco.
"Journal of Commerce," San Francisco.
"Record Union," Sacramento.
"Weekly Bee," Sacramento.
"The Argonaut," San Francisco.
"The Resources of California," San Francisco.
"Commercial Herald and Market Review," San Francisco.
"Tulare Register," Tulare City.
"The Valley Echo," Riverside.
"Ontario Fruit Grove." Ontario.
"The Times Mercury," San Jose.
"Nord California Herald," Sacramento.
"Exchange and Mart," Santa Cruz.
"Del Monte Wave," Monterey.
"California Immigration Journal," San Francisco,
"Scientific Californian," Oakland.
"Stockton Mail," Stockton.
"Rural Californian," Los Angeles.
"Pacific Rural Press," San Francisco.
"Millman and Mechanic," San Francisco.
"Mining and Scientific Press," San Francisco.
"Pacific Coast Land Bureau," San Francisco.
"La Voz Del Nuevo Mundo, San Francisco.
"Southern Californian," Los Angeles.
"Placer Herald," Auburn.
"San Bernardino Resources," San Bernardino,
"The Home Seeker," Sacramento.
"The Interior," Stockton.
"The Santa Clara Valley," San Jose.
"Courier Item," Santa Cruz.

CATALOGUE OF MINERAL EXHIBIT.

1.—ARAGONITE, Ohio Tunnel, (Drift Claim), near Dutch Flat, Placer county, Cal. contributed by O. Leper.

2.—ARAGONITE, Ohio Tunnel, (Drift Claim), near Dutch Flat, Placer county, Cal., contributed by O. Leper.

3.—ARAGONITE, Ohio Tunnel, (Drift Claim), near Dutch Flat, Placer county, Cal., contributed by O. Leper.

4.—ARAGONITE, Ohio Tunnel, (Drift Claim), near Dutch Flat, Placer county, Cal., contributed by O. Leper.

5.—ARAGONITE, Santa Cruz Mountains, Santa Clara county, Cal., contributed by L. A. Wilcox. This specimen is the deposit in about 18 months from water running through an Open Wooden Trough, having an incline of about 40 degree.

6.—ARAGONITE OR VARIEGATED MARBLE, Suisun, Solano county, Cal.

7.—ARAGONITE OR VARIEGATED MARBLE, Suisun, Solano county, Cal.

8.—ARAGONITE OR VARIEGATED MARBLE, Suisun, Solano county, Cal.

9.—ARAGONITE OR VARIEGATED MARBLE, Suisun, Solano county, Cal.

10.—ARAGONITE OR VARIEGATED MARBLE, Suisun, Solano county, Cal.

11.—ARAGONITE OR VARIEGATED MARBLE, Suisun, Solano county, Cal.

12.—ARAGONITE ON SLATE, Alabaster Cave, El Dorado county, Cal.

13.—ARAGONITE *in situ*, Santa Cruz Mountains, Santa Clara county, contributed by I. A. Wilcox. This specimen shows the wooden, trough in which specimen No. 5 was formed, as well as the deposit made in the same trough after the removal of specimen No. 5

14.—TOURMALINE IN QUARTZ, near Murphy's, Calaveras county, Cal., contibuted by Sperry and Perry.

15.—POLYBASITE, (Sulphates of Silver), rich Kentuck Mine, Gold Hill, Nev.

16.—POLYBASITE, (Sulphates of Silver), rich, Kentuck Mine, Gold Hill, Nev.

17.—Polybasite, (Sulphates of Silver), rich, Kentuck Mine, Gold Hill, Nev.

18.—Polybasite, (Sulphates of Silver), rich, Kentuck Mine, Gold Hill, Nev.

19.—Polybasite, (Sulphates of Silver), rich, Kentuck Mine, Gold Hill, Nev.

20.—Polybasite, (Sulphates of Silver), rich, Kentuck Mine, Gold Hill, Nev.

21.—Polybasite and Crystal Stephanite, (or Brittle Sulphates of Silver), rare, Kentuck Mine, Gold Hill, Nev., contributed by H. Crandall.

22.—Polybasite, (Sulphates of Silver), rich, Ophir Yellow Jacket Mine, Virginia City, Nevada, contributed by H. Crandall.

23.—Polybasite, (Sulphates of Silver), rich, Yellow Jacket Mine, (900 feet level), contributed by H. Crandall.

24.—Polybasite, (Sulphates of Silver), rich, Yellow Jacket Mine, Contributed by H. Crandall.

25.—Polybasite (Sulphates of Silver), very interesting specimen, Kentuck Mine, Gold Hill, Nevada, contributed by H. Crandall..

26.—Polybasite, (Sulphates of Silver) and free gold, very rich, $1,000 per ton, Ophir Mine, Virginia City, Nevada, contributed by H. H. Day.

27.—Polybasite, (Sulphates of Silver with Sulpherts of Iron,) Kentuck Mine, Gold Hill, Nevada, contributed by H. Crandall.

28.—Gold and Silver Ore with Galena and Pyrites, Delmatha Mine, Wallapa, Arizona, contributed by M. Grogan.

29.—Silver Bearing Galena, Flag-staff Mine, Little Cottonwood District, Utah.

30.—Silver Bearing Galena, Davenport Mine, Little Cottonwood District, Utah.

31.—Silver Bearing Galena, Flag-staff Mine, Little Cottonwood District, Utah.

32.—Galena Ore, Humbolt county, Nevada, contributed by C. C. Cornell.

33.—Antimonial Silver, Humbolt county, Nevada.

34.—Polybasite. (Sulphates of Silver), Bacon Mine, Gold Hill, Nevada, contributed by H. Crandall.

35.—Copper and Silver Ore, about $16.00 to ton Silver, Mammoth Mine, Tintic District, Utah.

36.—Brown Oxide of Copper, Mammoth Mine, Tintic District, Utah.

37.—Copper and Silver Ore, Battle Mountain Mines, Utah.

38—Yellow Sulphates of Copper, near Placerville, El Dorado County, Cal.

39.—Brown Oxide of Copper, Bradshaw Mine, Arizona.

40.—Serpentine, with Native Copper, (Croppings), 12 miles north of Middletown, Lake county, Cal. Discovered by Mr. and Mrs. Plass.

41.—Native and Red Oxide of Copper, (Croppings), 12 miles north of Middletown, Lake county, Cal. Discovered by Mr. and Mrs. Plass.

42.—Silver Bearing Quartz with Azurite, Sunday Mine, Goose Creek, Nevada, contributed by M. Grogan.

43.—Silver Bearing Quartz with Azurite, Sunday Mine, Goose Creek, Nevada, contributed by M. Grogan.

44.—Stephanite, (Sulphates of Silver, on quartz,) rare, Kentuck Mine, Gold Hill, Nevada, contributed by H. Crandall.

45.—Silver Melted, Little Cottonwood District, Utah.

46.—Silver Lead, and Antimony, Drippings from Furnace while smelting ore of the Eureka mine, Litle Cottonwood District, Utah.

47.—Gold Bearing Quartz, (Rich and rare,) Moss Ledge, Arizona.

48—Quartz Seam, with hanging walls of slate, showing how quartz mine looks in miniature, Cosumnes River, near Havilla mine, El Dorado county, Cal.

49.—Quartz Seam, (full width) from between slate walls, bed of Cosumnes river, near Havilla mine, El Dorado county, Cal.

50.—Gold Bearing Quartz Seam, full width from between slate walls, bed of Cosumnes river, near Havilla mine, El Dorado county, Cal.

51.—Gold Bearing Quartz, Havilla mine, El Dorado county, Cal.

52.—Gold Bearing Quartz, Havilla mine, El Dorado county, Cal.

53.—Gold Bearing Quartz, near Georgetown, El Dorado county, Cal.

54.—Pyrites in Slate, Willow Springs, Sacramento county, Cal.

55.—Antimony Ore, Battle Mountain, Nevada.

56.—Antimony From Ore, Battle Mountain, Nevada.

57.—Gold Bearing Sulphates in Quartz, Mount Pleasant mine, Grizzly Flat, El Dorado county, Cal.

58.—Petrified Wood, Chalk Bluff, near You Bet, Nevada county, Cal.

59.—Petrified Wood, Alaska, contributed by Captain Fulton.

60.—Fossil Wood, found about 40 feet below surface in Auriferous Grave Dutch Flat, Placer county, Cal.

61.—Fossil Wood, found about 40 feet below surface in Auriferous Grave Dutch Flat, Placer county, Cal.

62.—Fossil Wood, found about 40 feet below surface in Auriferous Grave Dutch Flat, Placer county, Cal.

63.—Fossil Wood, found about 40 feet below surface in Auriferous Grave Dutch Flat, Placer county, Cal.

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65.—Fossil Wood, found about 40 feet below surface in Auriferous Grave Dutch Flat, Placer county, Cal.

66.—Fossil Wood, found about 40 feet below surface in Auriferous Grave Dutch Flat, Placer county, Cal.

67.—Fossil Wood, found 40 about feet below surface in auriferous gravel, Dutch Flat, Placer county, Cal.

68.—Fossil Wood, found about 40 feet below surface in auriferous gravel, Dutch Flat, Placer county, Cal.

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70.—Fossil Wood, found about 40 feet below surface in auriferous gravel, Dutch Flat, Placer county, Cal.

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80.—Fossil Wood, found about 40 feet below surface in auriferous gravel. Dutch Flat, Placer county, Cal.

81.—Fossil Wood, found about 40 feet below surface in auriferous gravel. Dutch Flat, Placer county, Cal.

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86.—Fossil Wood, found about 40 feet below surface in auriferous gravel. Dutch Flat, Placer county, Cal.

87.—Fossil Wood, found about 40 feet below surface in aureferous gravel. Dutch Flat, Placer county, Cal.

88.—Lignite and Sulphates and Cement Gravel, found in Cement Gravel, Dutch Flat, Placer county, Cal.

89.—Lignite and Sulphates and Cement Gravel, found in Cement Gravel, Dutch Flat, Placer county, Cal.

90.—Petrified Wood, found near Red Dog, Nevada county, Cal.

91.—Petrified Wood, found near Emigrant Gap, Placer county, Cal.

92.—Silicified Wood, old Amador wagon road, Summit Mountain, Alpine county, Cal.

93.—Volcanic Tupa, overlying Fossil Wood, Petrified Forest, near Calistoga, Napa county, Cal.

94.—Volcanic Ball, Petrified Forest, near Calistoga, Napa county, Cal. Supposed to have come from Mt. St. Helena when that mountain was a volcano.

95.—Volcanic Ball, Petrified Forest, near Calistoga, Napa county, Cal. Supposed to have come from Mt. Helena when that mountain was a volcano.

96.—VOLCANIC TUFA, overlying Fossil Wood. Petrified Forest, Calistoga, Napa county, Cal.

97.—VOLCANIC TUFA, overlying Fossil Wood. Petrified Forest, Calistoga, Napa county, Cal.

98.—VOLCANIC TUFA, overlying Fossil Wood. Petrified Forest, Calistoga, Napa county, Cal.

99.—VOLCANIC TUFA, overlying Fossil Wood. Petrified Forest, Calistoga, Napa county, Cal.

100.—PETRIFIED BARK, near Calistoga, Napa county, Cal.

101.—PETRIFIED BARK, near Calistoga, Napa county, Cal.

102.—PETRIFIED WOOD. Petrified Forest, near Calistoga, Sonoma county, Cal.

103.—PETRIFIED WOOD. Petrified Forest, near Calistoga, Sonoma county, Cal.

104.—PETRIFIED WOOD. Petrified Forest, near Calistoga, Sonoma county, Cal.

105.—PETRIFIED WOOD, Petrified Forest, near Calistoga, Sonoma county, Cal.

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115.—PETRIFIED WOOD, Petrified Forest, near Calistoga, Sonoma county, Cal.

116.—PETRIFIED WOOD, Petrified Forest, near Calistoga, Sonoma county, Cal.

117.—PETRIFIED WOOD, Petrified Forest, near Calistoga, Sonoma county, Cal.

118.—Petrified Wood, Petrified Forest, near Calistoga, Sonoma county, Cal.

119.—Petrified Wood, Petrified Forest, near Calistoga, Sonoma county, Cal.

120.—Petrified Wood, Petrified Forest, near Calistoga, Sonoma county, Cal.

121.—Petrified Wood, Petrified Forest, near Calistoga, Sonoma county, Cal.

122.—Silicified Wood, Calistoga, Napa county, Cal.

123.—Silicified Wood, Calistoga, Napa county, Cal.

124:—Silicified Wood, Calistoga, Napa county, Cal.

125.—Silicified Wood, Calistoga, Napa county, Cal.

126.—Silicified Wood, Calistoga, Napa county, Cal.

127.—Petrified Wood, Calsitoga, Napa county, Cal.

128.—Carbonized Bark, Petrified Forest, near Calistoga, Sonoma county, Cal.

129.—Silicifield Wood, Emigraut Gap, Placer county, Cal.

130.—Supposed Redwood Partly Carbonized, Deposited in set about 10 feet below the surface, found on Protrers, San Francisco, Cal. The logs were the length of ordinary trees and 1½ and 2 feet in diameter. These specimens show that at sometime the mountains in that section must have been in different positions than at present. No trees of any size could grow in the locality now on account of the severe winds which sweep through the valley in which they were exposed by winter rains in 1872.

131.—Knot and Wood Partly Carbonized. Description same as 130.

132.—Wood Partly Carbonized Description same as 130.

133.—Wood Partly Carbonized. Description same as 130.

134.—Bark Partly Carbonized. Description same as 130.

135 —Petrified Wood, with Drusey Quartz. Petrified Forest near Calistoga, Sonoma county, Cal.

136.—Cement, Gravel, with Oxide of iron, found in auriferous gravel deposits. Dutch Flat, Placer county, Cal.

137.—Cement Gravel with Oxide of Iron, found in auriferous gravel deposits. Dutch Flat, Placer county, Cal.

138.—Cement Gravel, with Oxide of Iron. Found in auriferous gravel deposits. Dutch Flat Placer county, Cal

139.—Gravel Cemented by iron, in auriferous gravel Dutch Flat, Placer county, Cal.

140.—Gravel Cemented by Sulphate of Iron in auriferous gravel. Dutch Flat Placer county, Cal.

141.—Sulphate of Iron in auriferous gravel. Dutch Flat, Placer county, Cal.

142.—Oxide of Iron Concretion, found in Hydraulic Mining. Dutch Flat, Placer county, Cal.

143.—Oxide of Iron Concretion, found in Hydraulic Mining. Dutch Flat, Placer county, Cal.

144.—Oxide of Iron Concretion, found in Hydraulic Mining. Dutch Flat, Placer county, Cal.

145.—Oxide of Iron Concretion, found in Hydraulic Mining. Dutch Flat, Placer county, Cal.

146.—Oxide of Iron Concretion, found in Hydraulic Mining. Dutch Flat, Placer county, Cal.

147.—Oxide of Iron Concretion, found in Hydraulic Mining. Dutch Flat, Placer county, Cal.

148.—Oxide of Iron Concretion, found in Hydraulic Mining. Dutch Flat, Placer county, Cal.

149.—Oxide of Iron Concretion, found in Hydraulic Mining. Dutch Flat, Placer county, Cal.

150.—Oxide of Iron Concretion, found in Hydraulic Mining. Dutch Flat, Placer county, Cal.

151.—Silicious Deposit. Found in auriferous gravel. Dutch Flat, Placer county, Cal.

152.—Piece of Quartz from large Boulder gravel deposit Dutch Flat, Placer county, Cal.

153.—Fossil Leaf Impression in Clay, overlying auriferous Gravel, Dutch Flat, Placer county, Cal.

154.—Volcanic Tufa, used as building stone, Dutch Flat, Placer county, Cal.

155.—Volcanic Tufa, used as building stone, Dutch Flat, Placer county, Cal.

156.—Fossil Impression of Leaves, (Miocene), Washington Territory.

157.—Fossil Impression of Leaves, (Front), (Miocene), Washington Territory.

158.—Fossil Impression of Leaves, (Back), (Miocene), Washington Territory

159.—Piece of Quartz from Large Boulder, Gravel Deposit, Dutch Flat, Placer county, Cal.

160.—Spongy Form Quartz, Kentuck Mine, Gold Hill, Nev.

161.—Drusey Quartz, Yellow Jacket Mine, Gold Hill, Nev.

162—Crystalized Quartz with Calcite (rare), Yellow Jacket Mine, Gold Hill, Nev.

163.—Cluster Quartz Crystals, Yellow Jacket Mine, Gold Hill, Nev.

164.—Cluster Quartz Crystals, Yellow Jacket Mine, Gold Hill, Nev.

165.—Cluster Quartz Crystals, Yellow Jacket Mine, Gold Hill, Nev.

166.—Cluster Quartz Crystals, Yellow Jacket Mine, Gold Hill, Nev.

167.—Cluster Quartz Crystals, Yellow Jacket Mine, Gold Hill, Nev.

168.—Cluster Quartz Crystals, Yellow Jacket Mine, Gold Hill, Nev.

169.—Cluster Quartz Crystals, Yellow Jacket Mine, Gold Hill, Nev.

170.—Cluster Quartz Crystals, Yellow Jacket Mine, Gold Hill, Nev.

171.—Cluster Quartz Crystals, Yellow Jacket Mine, Gold Hill, Nev.

172.—Cluster Quartz Crystals, Yellow Jacket Mine, Gold Hill, Nev.

173.—Cluster Qtartz Crystals, Yellow Jacket Mine, Gold Hill, Nev.

174.—Cluster Quartz Crystals, Yellow Jacket Mine, Gold Hill, Nev.

175.—Cluster Quartz Crystals, Yellow Jacket Mine, Gold Hill, Nev.

176.—Cluster Quartz Crystals, Yellow Jacket Mine, Gold Hill, Nev.

177.—Quartz Crystals, Crown Point Mine, Gold Hill, Nev.

178.—Quartz Crystals, Crown Point Mine, Gold Hill, Nev.

179.—Amethyst Crystals, Yellow Jacket Mine, Gold Hill, Nev.

180—Amethyst Crystals, Yellow Jacket Mine, Gold Hill, Nev.

181.—Crystalized Quartz, (very rare), Kentuck Mine, Gold Hill, Nev.

182.—Quartz Crystals, Kentuck Mine, Gold Hill, Nev.

183.—Quartz Crystals, Kentuck Mine, Gold Hill, Nev.

184.—Quartz Crystals, Kentuck Mine, Gold Hill, Nev.

185.—Quartz Crystals, Kentuck Mine, Gold Hill, Nev.

186.—Quartz Crystals, Kentuck Mine, Gold Hill, Nev.

187.—Quartz Crystals, Crown Point Mine, Gold Hill, Nev.

188.—Quartz Crystals, Crown Point Mine, Gold Hill, Nev.

189.—Quartz Crystals, Crown Point Mine, Gold Hill, Nev.

190.—Quartz Crystals, Imperial Mine, Gold Hill, Nev.

191.—Quartz Crystalized, Kentuck Mine, Gold Hill, Nev.

192.—Quartz Crystals, with Sulpherts and Stephenite, Kentuck Mine, Gold Hill, Nev.

193.—Quartz Crystals, and Sulpherts, Kentuck Mine, Gold Hill, Nev.

194 —Hack Quartz, Kentuck Mine, Gold Hill, Nev.

195.—Hack Quartz and Crystalized Quartz, Surface Croppings, Milton Mine, Virginia City, Nev.

196.—Crystalized Quartz, Surface Croppings, Milton Mine, Virginia City, Nev.

197.—Crystalized Quartz, Surface Croppings, Milton Mine, Virginia City, Nev.

198.—Crystalized Quartz, Surface Croppings, Milton Mine, Virginia City, Nev.

199.—Crystalized Quartz, Surface Croppings, Milton Mine, Virginia City, Nev.

200.—Crystalized Quartz, Surface Croppings, Milton Mine, Virginia City, Nev.

201.—Crystalized Quartz, Surface Croppings, Milton Mine, Virginia City, Nev.

202.—Crystalized Quartz, Surface Croppings, Milton Mine, Virginia City, Nev.

203.—Crystalized Quartz, Surface Croppings, Milton Mine, Virginia City, Nev.

204.—Crystalized Quartz, Surface Croppings, Milton Mine, Virginia City, Nev.

205.—Crystalized Quartz, Surface Croppings, Milton Mine, Virginia City, Nev.

206.—Crystalized Quartz, Surface Croppings, Milton Mine, Virginiua City, Nev.

207.—Crystalized Quartz, Surface Croppings, Milton Mine, Virginia City, Nev.

208.—Crystalized Quartz, Kelseys, near Georgetown, El Dorado county, Cal,

209.—Triple Quartz Crystal, Terminated (very rare), Kelsey's Diggings, near Georgetown, El Dorado county, Cal.

210.—Drusey Quartz, Dutch Flat, Placer county, Cal.

211.—Drusey Quartz, Dutch Flat, Placer county, Cal.

212.—Moss Agate, Remington Hill, Nevada county, Cal., contributed by O. Leper.

213.—Moss Agate, Remington Hill, Nevada county, Cal., contributed by O. Leper.

214.—Moss Agate, Remington Hill, Nevada county, Cal., contributed by O. Leper.

215.—Turquoise, Esmeralda county, Nev.

216.—Dendritic Pebble [very rare], found 300 feet below the surface, near Nevada City, Nevada county, Cal., contributed by C. D. Voy.

217.—Cornelian Pebbles, Lake Tahoe, Cal.

218.—Pebbles, Lake Tahoe, Cal.

219.—Pebbles, Lake Tahoe, Cal.

220.—Pebbles, Lake Tahoe, Cal.

221.—Pebbles, Lake Tahoe, Cal.

222.—Pebbles, Lake Tahoe, Cal.

223.—Quartz Pebble, Auriferous Gravel Deposit, Cosumnes River, near Havilla Mine, El Dorado county, Cal.

224,—Pescadero Pebbles, Pescadero, Monterey, Cal.

225.—Aragonite and Magnesite, with Drusey Quartz, near Clear Lake, Lake county, Cal.

226.—Aragonite and Magnesite with Drusey Quartz, near Clear Lake, Lake county, Cal.

227.—Aragonite and Magnesite, with Druscy Quartz, near Clear Lake, Lake county, Cal.

228.—Stalactites, Carbonate of Lime (Aragonite), Mammoth Cave, Cave City, Calaveras county, Cal.

229.—Stalactites, Carbonate of Lime (Aragonite), Mammoth Cave, Cave City, Calaveras county, Cal.

230.—Stalactites on Lime Stone, Mammoth Cave, Cave City, Calaveras county, Cal.

231.—Concretionary Carbonate of Lime (Aragonite), Alabaster Cave, El Dorado county, Cal.

232.—Mud with Borax Crystals, from Borax Lake, Lake county, Cal.

233.—Mud with Borax Crystals, from Borax Lake, Lake county, Cal.

234.—Refined Borax, (ready to ship), from Little Borax Lake, Lake county, Cal., September 1, 1873.

235.—Crystalized Refined Borax, Cal., contributed by W. T. Coleman.

236.—Lime Stone, Mammoth Cave, Cave City, Calavera county, Cal.

237.—Aragonite, near Suisun, Cal.

238.—Aragonite, near Suisun, Cal.

239.—Cinnabar Sulphide of Mercury, Great Eastern Mine, near Hog's Back, Sonoma county, Cal.

240.—Cinnabar Sulphide of Mercury, Great Eastern Mine, near Hog's Back, Sonoma county, Cal.

241.—Crystals of Cinnabar, with Drusey Quartz, Geyser Quicksilver Mine. Sonoma county, Cal.

242.—Cinnabar, Yellow Jacket Mine, near Kellog's, Sonoma county, Cal.

243.—Cinnabar (Surface), Pine Flat, near Calistoga, Cal.

244.—Cinnabar (Surface), Pine Flat, near Calistoga, Cal.

245.—Cinnabar, Great Eastern Mine, Mt. Jackson, Guerneville, county, Water Worn.

246.—Native Quicksilver, Rattlesnake Mine, 2 miles west of Geyser Road, 35 feet below surface, September, 1873.

247.—Cinnabar, in a Silicious rock, Reddington Mine, Lake county, Cal.

248.—Cinnabar, in Silicious rock, Reddington Mine, Lake county, Cal.

249.—Metacinabarite, Black Sulphide Mercury, (rare specimen, Reddington Mine, Lake county, Cal.

250.—Metacinabarite, Black Sulphide Mercury, (rare specimen,) Reddington Mine, Lake county, Cal.

251.—Cinnabar and Sulphates of Iron, near Clear Lake, Lake county, Cal.

252.—Native Quicksilver, Great Eastern Mine, Guerville, Sonoma county, Cal.

253.—Derangite, Derango, Mexico.

254.—Copper Ore in Serpentine, Little Stoney Creek, Colusa county, Cal., from Julius Weyand's Mine.

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256.—Copper Ore in Serpentine, Little Stoney Creek, Colusa county, Cal., from Julius Weyand's Mine.

257,—Copper Ore in Serpentine, Little Stoney Creek, Colusa county, Cal., from Julius Weyand's Mine.

258.—Copper Ore, (Raw Ore), San Francisco Copper Mine, Spenceville, Nevada county, Cal., approximate analysis; Copper 4.50 per cent, Sulphur 45.25 per cent, Iron 43.75 per cent, Silica 6.20 per cent.

259.—Copper Ore, (Raw Ore), San Francisco Copper Mine, Spenceville, Nevada county, Cal.

260.—Copper Ore, (Raw Ore), San Francisco Copper Mine, Spenceville, Nevada county, Cal.

261.—Copper Ore, (After Roasting), San Francisco Copper Mine, Spenceville, Nevada county. Cal.

262.—Native Copper, San Francisco Copper Mine, Spenceville, Nevada county, Cal.

263.—Sulphur from Sublimation of Sulphurous Fumes on surface piles of roasting ore, San Francisco Copper Mines, Spenceville, Nevada county. Cal.

264.—Native Copper, found in auriferous diggings in 1849, near Placerville, El Dorado county, (Cosumnes Copper ledge).

265.—Crystalized Quartz, Kelsey's, near Placerville, El Dorado county, Cal.

266.—Limestone Fossils, Painted Cave, Texas, coutributed by M. McGary.

267.—Limestone Fossils, Painted Cave, Texas, contributed by M. McGary.

268.—Limestone Fossils, Painted Cave, Texas, contributed by M. McGary.

269.—Carbonate of Lead, Amelia Mine, Poorman Mining District, San Diego county, Cal., contributed by A. H. Douglas, Lead 70 per cent. Silver average 51 per cent.

270 to 291.—Full Collection of Pebbles and Sandrock, Illustrating the Drift Period from the "Benches" north of Salt Lake City, Utah.

292.—Obsidian, (rough) from Slag Mountain, (2,100 feet elevation,) Lake county, Cal.

293.—Obsidian, (Polished) from Slag Mountain, (2,100 feet elevation,) Lake county, Cal.

294.—Obsidian, (rough) from Slag Mountain, (2,100 feet elevation,) Lake county, Cal.

295 to 303.—Lava, from Lava Flow, East of Clear Lake county, Cal.

304.—Lava, from Lava Flow, Donner Lake, Nevada county, Cal.

305.—Lava, from Lava Flow, Donner Lake, Nevada county, Cal.

306.—Obsidian, Clear Lake, Lake county, Cal.

307.—Lava, from near Donner Lake, Nevada county, Cal.

308 —Incrustation on Volcanic Island, Mono Lake, Mono county, Cal.

309.—Lava, from Maunoloa, Sandwich Islands.

310.—Lava Stalactite from Cave in Crater of Maunaloa.

311.—Conglomerate of Obsidion Cemented by sulphur, near Borax Lake, Lake county, Cal.

312.—Crude Sulphur, (from Vats) Sulphur Bank, East of Clear Lake, Lake county, Cal.

313.—Crude Sulphur, (from Vats) Sulphur Bank, East of Clear Lake, Lake county, Cal.

314.—Sulphur, Cove Creek, 125 miles south of Salt Lake City, Utah.

315.—Granite, Penryn, Placer county, Cal., Contributed by W. H. Jessup.

316.—Granite, Penryn, Placer county, Cal., Contributed by W. H. Jessup.

317.—Granite, Penryn, Placer county, Cal., Contributed by W. H. Jessup.

318.—Granite, Penryn, Placer county, Cal., Contributed by W. H. Jessup.

319.—Porphyretic Granite, Found in Auriferous Gravel Bed, Dutch Flat, Placer county, Cal.

320.—Porphyretic Granite, found in Auriferous Gravel Bed, Dutch Flat, Placer county, Cal.

321 to 326.—Granite, Summit Sentinel, Dome, Yo Semite Valley, Mariposa county, Cal

327 To 329.—Granite, Yo Semite Valley, Mariposa county, Cal.

330.—Granite, Showing Glacier Polish, near top of Nevada Falls, Yo Semite Valley, Mariposa county, Cal.

331.—Feldspar, near top of Nevada Falls, Yo Semite Valley, Mariposa county, Cal.

332.—Feldspar, near top of Nevada Falls, Yo Semite Valley, Mariposa county, Cal.

333.—Feldspar, near top of Upper Yo Semite Falls, Yo Semite Valley, Mariposa county, Cal.

334.—Granite, Indian Canon, Yo Semite Valley, Mariposa county, Cal.

335.—Granite, near top of Upper Yo Semite Falls, Yo Semite Valley, Mariposa county, Cal.

336.—Quartz, near top of Upper Yo Semite Falls, Yo Semite Valley, Mariposa county, Cal.

337.—Granite, from "Wash." which occured in 1862, Santa Ana River, San Bernardino county, Cal.

338.—Granite, Mt. Davidson, Story county, Nev.

339.—Granite, 16 miles east of Salt Lake City, Utah, (used for building Morman Temple in Salt Lake City).

340.—Granite, 16 miles East of Salt Lake City, Utah, (used in building Mormon Temple in Salt Lake City).

341.—Sandstone, Mt. Davidson, Story county, Nev.

342.—Serpentine, Placer county, Cal., contributed by Wm. Bray, Woodland, Yolo county, Cal.

343.—Serpentine, Washington street, bet. Central Avenue and First Avenue, San Francisco, Cal.

344.—Serpentine with Dendritic Agate, found about 15 feet below surface, near corner Washington and Cherry streets, San Francisco, Cal.

345.—Dendritic Agate, for description see 344.

346.—Serpentine With Asbestos, for description see 344.

347.—Steatite or Soapstone, 12 miles from Ione City, Amador county, Cal., used in building ovens, to roast Sulphrets.

348.—Jasper, Dutch Flat, Placer county, Cal.

349.—Obsidian, (Coarse), Lake county, Cal.

350.—Hornblendic Rock, Alta, Placer county, Cal.

351.—Hornblendic Rock, Georgetown divide, 7 miles North of Penryn, El Dorado county, Cal.

352.—Asbestos, Morning Star Diggings, Iowa Hill, Placer county, Cal., contributed by O. Leper.

353.—Asbestos, Morning Star Diggings, Iowa Hill, Placer county, Cal., contributed by O. Leper.

354.—Limestone, Suisun Marble Quarry, Solano county, Cal.

355.—Sandstone Concretion, near Laurel Hill Cemetery, San Francisco, Cal.

356.—Selenite, Mt. Diablo, Contra Costa county, Cal.

357.—Onyx Marble, near Placerville, El Dorado county, Cal.

358.—Coal, Taylor Mountain Coal Mine, Santa Rosa Township, Sonoma county, Cal.

359.—Black Marble, near Colfax, Placer county, Cal.

360.—Aragonite (Suisun Marble,) Suisun, Solano county, Cal.

361.—White Marble, Tehachapi Mountains, Kern county, Cal.

362.—Marble, Tehachapi Mountains, Kern county, Cal.

363.—Quicksilver, Great Eastern Mine, Guernville, Sonoma county, Cal.

364.—Antimony from Antimony Ore, Iyo, Japan, contributed by C. D. Voy.

365.—Collection of Minerals and Waters from the Geysers, Sonoma county, Cal., Epsom Salts, Alumn, Magnesia, Alum Water, Eye Water, Sulphur, Copperas, Cinnabar, Iron Waters, Devil's Ink.

366.—Silicious Deposit From Steamboat Springs, Washoe, Nev.

367.—Silicious Deposit From Steamboat Springs, Washoe, Nev.

368.—Silicious Deposit From Steamboat Springs, Washoe, Nev.

369.—Gold Bearing Quartz and Sulphates, Idaho Quartz, Mine, Grass Valley, Nevada county, Cal.

370.—Gold Bearing Quartz and Sulphates, Niagara Mine, Shasta county, Cal., Shows Free Gold, Contributed by W. T. Coleman.

371.—Gold Bearing Sulphates, Cornish Mine, near Nevada City, Nevada county, Cal.

372.—Nickle Ore, Nevada Mining Co., Churchill county, Nev., contributed by C. C. Merrill, average 35 per cent.

373.—Dark Variegated Marble, near Colfax, Placer county, Cal.

374.—Limestone, near Murpheys, Calaveras county, Cal.

375.—Magnesia, Winnemucca, Nev.

376.—Dendritic Rock, Leadville, Col.

377.—Dendritic Rock, Leadville, Col.

378.—Asphaltum with rock boring shell [Pholades], Santa Barbara, Cal., contributed by J. S. Lippincott.

379 and 380.—Asphalt [Brea], found in large quantities at Petrolia, Sec. 5, Township 3 South, Range 9 West, 7 miles from Anaheim, Los Angeles county, Cal.

381.—Liquid Asphalt or Maltha, from the Puente Oil Wells, Sec. 1, Township 3 South, Range 10 West, 7 miles from Anaheim, Los Angeles county, Cal. Specific gravity 920.

382.—Petoleum, Crude Oil, Green Oil, specific gravity .795, from a well on Tunitas Creek, San Mateo county, Cal., Sec. 35, Township 6 South, Range 5 West. In April, 1884 several barrels per day were being pumped.

383.—Petroleum, Crude Oil, specific gravity .830, from Pico Canon, near Newhall, Los Angeles county, Cal. This sample was drawn from the end of the main pipe line at the refinery at Newhall, and is the oil which is being sent by the Railroad both north and south in large quantities.

384.—Refined Petroleum, Coal Oil, specific gravity .797, refined at Newhall, Los Angeles county, Cal., from Crude Oil.

386.—Silica or Infusorial Earth, Argonaut Mine, Story county, Nev., contributed by W. M. Havenor, used for making glass polishing, etc.

387.—Silica or Infusorial Earth, Sonoma county, Cal., contributed by G. N. Whitaker.

388.—Volcanic Tufa, used as Building Stone, Taylor Mountain, Sonoma Co., contributed by G. N. Whitaker.

389.—Volcanic Rock, used for paving. Sonoma county, Cal.

390.—Volcanic Rock, used for paving, Sonoma county, Cal.

391.—Gold and Silver Ore, Providence Mine, near Grass Valley, Nevada county, Cal., from 300 feet level in slate formation.

392—Gold and Silver Ore, providence Mine, near Grass Valley, Nevada county, Cal., from 300 feet level in contact with Slate and Granite.

393 —Gold and Silver Ore, Providence Gold Mine, Nevada City, Nevada county, Cal.

394—Gold and Silver Ore, Providence Mine, near Grass Valley, Nevada county, Cal., from 1000 feet level, Granite formation.

395.—Granite Rock, from hanging wall, Providence Mine, near Grass Valley, Nevada county, Cal.

396.—Slate Rock, from foot wall, Providence Mine, near Grass Valley, Nevada county. Cal.

397.—Gold Sulphates, Raw, 1st Process, Providence Mine, near Grass Valley, Nevada county, Cal.

398.—Roasted Sulphates, Gold and Silver, not taken out, 2d Process, from Providence Mine, near Grass Valley, Nevada county, Cal.

399.—Chloride Gold Solution, 3d Process, Providence Mine, near Grass Valley, Nevada county, Cal.

400.—Chloride Gold Solution, Precipitated, 4th Process, Providence Mine, near Grass Valley, Nevada county. Cal.

401 —Sulphates of Silver in Solution, 5th Process, Providence Mine, near Grass Valley, Nevada county, Cal.

402.—Sulphates Silver Solution Precipitated, 6th Process, Providence Mine, near Grass Valley, Nevada county, Cal.

403.—Sulphates with Gold and Silver taken out, 7th Process, Providence Mine, near Grass Valley, Nevada county, Cal.

404.—Petrified Wood, Yuma county, A. T.

405.—Silicified Wood, Apache county, A. T.

406.—Silicified Wood, Apache county, A. T.

407.—Silicified Wood, (Polished) Apache county, A. T.

408.—Gold Ore, Tevis Mine, Cochise county, A. T.

409.—Crysocolla and Malachite, Copper Queen Mine, A. T.

410 —Copper Ore, United Verde Mine, Yavapai county, A. T.

411.—Azurite, United Verde Mine, Yavapai county, A. T.

412.—Cuprite and Malachite, Copper Prince Mine, Cochire county, A. T.

413.—Azurite and Manganese, Atlanta Mine, Cochise county, A. T.

414.—Ezuebscite, Artic Mine, Cochise county, A. T.

415.—Native and Oxide Copper, United Verde Mine, Yavapai county, A. T

416.—Azurite, Middlton Mine, Cochise county, A. T.

417.—Carbonate of Copper, Hercules Mine, Cochise county, A. T.

418.—Chrysocolla and Fibrous Malachite, Copper Queen, Cochise county, A. T.

419.—Malachite and Cuprite, Atlanta Mine, Cochise county, A. T.

420.—Vein Matter, United Vein Mine, Yavapai county, A. T.

421.—Gold Ore, Agnes Bell Mine, Cochise county, A. T.

422.—Chalcopyrite, United Verde Mine, Yavapai county, A. T.

423.—Sulphate of Copper, United Verde Mine, Yavapai county, A. T.

424.—Sulphates of Iron, Lead and Silver, Mary Mine, Cochise county, A. T.

425.—Azurite, Summer Mine, Cochise county, A. T.

426.—Free Gold, Dutch Girl Mine, Cochise county, A. T.

427.—Pumice Stone, Yuma county, A. T.

428.—Marble, Yuma county, A. T.

429.—Rock Soap in natural condition, Goleta, Santa Barbara county, Cal., contributed by A. Hollister.

430.—Soap Rock in natural condition, Carpinteria, Santa Barbara county, Cal., contributed by P. C. Higgins.

431.—Copper Precipitate, San Francisco Copper Mine, Spenceville, Nevada county, Cal.

432.—Solution From Leaching Roasted Ore, (1000 gallons contained 109 lbs of Copper), San Francisco Copper Mine, Spenceville, Nevada county, Cal.

433—Sulphate of Copper, (Blue Stone), Made from Precipitate, San Francisco Copper Mine, Spenceville, Nevada county, Cal.

434.—Limestone Rock, Excelsior Lime Ledge, near Clipper Gap, Placer county, Cal., contributed by W. B. Skellenger.

435.—Chloride of Silver Ore (rich), Mountain Mine, Calico District, San Bernardino county, Cal., contributed by A. Wentscher, San Diego.

436.—Pig Iron, Hotalling Mine, near Clipper Gap, Placer county, Cal.

437.—Chrome Ore, 6 miles south of Knoxville, on St. Helena Road, Lake county, Cal.

438.—Crude Antimony, near Bakersfield, Kern county, Cal. (80 miles North of Los Angeles.)

439.—Smelted Antimony, near Bakersfield, Kern county, Cal. (80 miles North of Los Angeles).

440.—Steatite or Soap Stone, various colors; can be ground into paint; used by tailors for marking cloth; Bluffs near Wilmington, Los Angeles county, Cal., contributed by M. Berry.

441.—Crystal, Similar to Brazilian Pebble, (Surface Specimen,) found south of Santa Margarita Ranch in San Diego county, Cal., (80 miles south of Los Angeles,) contributed by M. Berry.

442.—Crystal Similar to Brazilian Pebble, (Greater Depth), found south of Santa Margarita Ranch in San Diego county, Cal., (80 miles south of Los Angelos), contributed by M. Berry.

443.—Rock Containing Free Gold, Iron and Petroleum, [rare], Los Angeles county, [45 miles north of Los Angeles, Cal.], contributed by M. Berry.

444.—Iron Ore, Bessemer Mine, El Dorado county, Cal., contributed by J. L. Bulens and J. D. Pratt.

445.—Silver Ore, Belcher Mine, Virginia City, Nev.

446.—Silver Ore, Hail and Norcross, Virginia City, Nev.

447.—Silver Ore, Crown Point Mine, Virginia City, Nev.

448.—Silver Ore, Yellow Jacket Mine, [900 feet level], Gold Hill, Nev.

449.—Peacock Coal, Scheylkill and Leghigh Basin, Penn.

450.—Copper Quartz, 2,000 feet level, Franklin Copper Mine, Mich.

451.—Sulphates and Roasted Copper, Phœnix Mine, Eagle River, Kewenew county, Mich.

442.—Mass Copper, Quincy Mine, Hancock, Houghton county, Mich.

453.—Mass Copper, Peninsula Mine, Houghton, Houghton county, Mich.

454.—Copper, Occota Mine, Calumet, Calumet county, Mich.

455.—Crystal Copper, Calumet and Hecla Mine, Calumet, Calumet county, Mich.

456.—Native Copper, Huron Mine, Houghton county, Mich.

457.—Copper Rock, Copper Falls Mine, Eagle Harbor, Kewenew county, Mich.

458.—Native Copper, Beet Mining Company, Greenland, Ontonagon county, Mich. Mine owned and worked with English capital.

459.—Copper Conglomerate, Alloinz Mine, Alloinz, Kewenew county, Mich.

460.—Copper Conglomerate, Calumet and Hecla Mining Co., Calumet, Houghton county, Mich. Largest and richest copper mine in the world; 3000 tons refined ingot copper per month.

461.—Copper, Hancock Mine, Hancock, Houghton county, Mich.

462.—Copper, Huron Mine, Houghton county, Mich.

463.—Copper, Quincy Mine, Hancock, Houghton county, Mich.

464.—Copper, Quincy Mine, Hancock, Houghton county, Mich.

465.—Copper Rock, St. Clair Mine, Eagle River, Kewenew county, Mich.

466.—Copper Rock, St. Clair Mine, Eagle River, Kewenew county, Mich.

467.—Micatures Specular Red Hematite, Republic Mine, Republic, Marquette, county, Mich.

468.—Specular Red Hematite, No. 1, Barnum Mine, Ishpeming, Marquette county, Mich. Analysis, Metalic, Iron 7.90 per cent., Phos. 0.83 per cent., Silica 98. per cent.

469.—Specula Red Hematite No. 2, Barnum Mine, Ishpeming, Marquette county, Mich.

470.—Specular Red Hematite, Pittsburgh and Lake Augeline Mine, Ishpeming, Marquette county, Mich.

471.—Red Hematite, Quinnesec Mine, Pennsylvania Iron Co., Minomonee county, Mich.

472.—Red Hematite, Perkins Mine, Minomonee county, Mich.

473.—Red Hemtaite Bessemer, Chapin Mine, Minomonee county, Mich.

474.—Soft Red Hematite, Columbia Iron Co.

475.—Soft Red Hematite, Pittsburgh and Lake Angeline Mine, Ashpeming, Marquette county, Mich.

476.—Specular Iron Ore, Champion Iron Co., Champion, Marquette county, Mich. Analysis iron, 687 per cent, silica, 175 per cent; phos., 37 per cent; mine worked 15 years, depth 540 feet.

477.—Soft Hematite Bessemer Ore, Ludington Mine, Minomonee county, Mich. Analysis, metalic, Iron 68 per cent., Phos. 02 per cent., Silica 20c. 400.

478.—Soft Blue Hematite, Cyclops Mine, Minomonee county, Mich.

479.—Soft Blue Hematite, West Volcanic Mine, Minomonee county. Mich.

480.—Soft Blue Hematite, West Volcanic Mine, Minomonee county, Mich.

481.—Soft Blue Hematite, West Volcanic Mine, Minomonee county, Mice.

482.—Soft Brown Hematite, Rolling Mill Mine, Neegaune Marquette county, Mich.

483.—Brown Hematite, Nanaieno Mine, Minomonee county, Mich.

484.—Brown Hematite, Nanairno Mine, Minomonee county, Mich.

485.—Brown Hematite, Nanairno Mine, Minomonee county, Mich.

486.—Soft Red Hematite, Norway Mine, Minomonee county, Mich.

487.—Soft Red Hematite, Pittsburgh and Lake Angeline Mine, Ishpeming county, Mich.

488.—Graniella Magnetic Iron, Republic Mine Republic, Marquette county, Mich.

490.—Magnetic Iron Ore. Champion Iron Ore Mine, Champion, Marquette county, Mich. Analysis, net iron, 7 per cent; phos., 035 per cent; silica, 150 per cent.

491.—Iron Ore, near Lake Superior, Mich.

492.—Iron Ore, near Lake Superior, Mich.

493.—Slate Ore, Lake Superior Mine, Ishpeming, Marquette county, Mich, Analysis, metalic, Iron, 68 per cent.

494.—Henry Spark, Peninsula Mine, Houghton, Houghton county, Mich.

495.—Assay $3 to $80.00, Ropes Gold and Silver Mine, Ishpeming, Marquette county, Mich.

496.—Gypsum, Grand Rapids Plaster Beds, Grand Rapids, Mich.

497.—Sample of the Celebrated Roofing Slate, Lake Superior Slate Co., Arron, Baraga county. Mich.

498.—Horn Silver Ceragerite (very rare formation)' Mountain Mine, Calico District, San Bernardino county, Cal., contributed by A. Wentscher, San Diego. Cal.

499.—Sulphates of Silver and Chloride, (very rich), carries 1-3 gold, $1,000 per ton, Hale & Norcross Mine. Virginia City, Nev., contribnted by W. M. Havenor.

500.—Silver Sulphates and Gold Ore, (1-3 gold), $600 per ton, Hale & Norcross Mine, Virginia City, Nev., contributed by W. M. Havenor.

501.—Copper Nickle Ore, (46 per cent copper), Nevada Nickle Mine, Churchill county, Nev , contribnted by C. C. Merrill.

502.—Quartz Crystals, Beecher Mine, Gold Hill, Nev., contribnted by W. M. Havenor.

503.—Volcanic Rock, (one variety of Trap), Tuolumne county, Cal.

504.—Clay Jasper, Tuolumne county, Cal.

505.—Clay Jasper, near Murphy's, Calaveras county, Cal.

506.—FLINT, near Murphy's, Calaveras county, Cal.

507.—KALOFIN, (extra fine), Clifton, A. T.

508.—QUARTZ, CRYSTALS. Belcher Mine, Gold Hill, Nev., contributed by W. M. Havenor.

509.—QUARTZ, CRYSTALS, Consolidated Virginia Mine, Virginia City, Nev., contributed by W. M. Havenor.

510.—CONGLOMERATE, Nasatch Mountains, near Salt Lake City, Utah.

511.—GRANITE AND CORUNDUM, Yo Semite Valley, Cal.

512.—GRANITE, (Crystalized Limestone), Yo Semite Valley, Cal.

513.—OBSIDIAN, Tuolumne county, Cal.

514.—FOSSILIFEROUS LIMESTONE, Penitentia Creek, Santa Clara county, Cal.

515.—ARAGONITE, Alum Rock Spring, Santa Clara county, Cal.

516.—HOT SPRING FORMATION (Lime), Hot Mineral Springs, Penitentia Creek, Santa Clara county, Cal.

517.—AGATE, Calchidney Tesuclormph, after Jasper with Dendrites, from East of Murphy's, Calaveras county, Cal.

518.—SILVER ORE WITH PYRITES, Robert Grigsby Silver Mine, 2½ miles norih of Calistoga, Napa county, Cal.

519.—OBSIDIAN, (Volcanic Glass), White Mountains, Esmeralda county, Nev., contributed by W. M. Havenor.

520.—MICA, Ruby Valley, Nev., contributed by W. M. Havenor.

521.—SELENITE, Churchill, county, Nevada, contributed by W. M. Havenor.

522.—PORPHYRY. (2300 feet level), Overman Mine, Gold Hill, Nevada. Spots formed by absorption of moisture after exposure to the air. Contributed by W. M. Havenor.

523.—CRYSTALS, found in Slag from furnace in smelting Silver and Lead Ores, Richmond Mine, Eureka, Nevada, contributed by W. M. Havenor.

524.—Carbonate of Copper Malachite Surrounding Quartz Luning Mine, Esmeralda county, Nevada, contributed by W. M. Havenor.

525.—Native Silver on Talc, Esmeralda county, near Marietta, Nevada, contributed by W. M. Havenor.

526.—Native Silver, Paradise Mine, Formation Slate, Paradise Valley Mining District, Humbolt county. Nevada contributed by W. M. Havenor.

527.—Antimonial Silver Ore, ($1000 per ton), Foundation Limestone and Slate, Gray Eagle Mine, Lander county Nev., contributed by W. M. Havenor.

528.—Sulphates of Silver, ($1200 per ton), Opher Mine Virginia City, Nev., contributed by W. M. Havenor.

529.—Corallites, ($200 per ton Silver, $40 Gold and 40 per cent Copper), foundation. Limestone and Granite, J and K. Mine, Pyramid District, Washoe county, Nev contributed by W. M. Havenor.

530.—Gold Ore, Foundation Limestone and Slate, Mos Mine, Esmeralda county, Nev., contributed by W. M Havenor.

531.—Bromide, Chloride, Sulphates of Silver and Gold Foundation Granite and Slate, Harris Mine, Washo county, Nev., contributed by W. M. Havenor.

532.—Sulphide of Silver in Porphyry, (dark spots), remarkable, McKibben Tunnell, Virginia City, Nev., contributed by W. M. Havenor.

533.—Gold and Silver Ore, $1200 silver, $600 gold per ton Yellow Jacket Mine. Virginia City, Nev., contributed by W. M. Havenor.

534.—Silver Sulphates and Gold, Formation Porphyr and Diorite, from 3100 feet level, deepest, $400 per ton Hale & Norcross Mine, Virginia City, Nev., contributed by W. M. Havenor.

535.—Ruby Silver and Arsenical Pyrites on Porphyry Navajo Mine, Tuscarora District, Nev., contributed by W. M. Havenor.

536.—Chloride of Silver on Clay, (remarkable), $40 per ton, Mt. Diable Mine, Esmeralda county, Nev., contributed by W. M. Havenor.

537, 538, 539.—SILVER ORE, showing width of vein; $400, Formation Limestone and Granite Fibre Mine, Esmeralda county, Nev., contributed by W. M. Havenor.

540.—CHLORIDE ORE, $1200 silver to ton, Northern Bell Mine, Columbus District, Nev., contributed by W. M. Havenor,

541.—BLACK METAL PARGASITE, $4,000 to $5,000 per ton, Silver, North Star Mine, Lyda Valley, Nevada, contributed by W. M. Havenor.

542.—NATIVE AND RED OXIDE OF COPPER, (Kidney Copper), Mason's Valley, Lyon county, Nevada, contributed by W. M. Havenor.

543.—GRAPHITE, Humbolt county, Nevada, contributed by W. M. Havenor.

544.—CARBONATE ORE, 35 per cent. Lead, $6,500 per ton, Silver, formation Limestone and Quartsite, Richmond Mine, Eureka, Nevada, contributed by W. M. Havenor

545.—COBALT, (very rare), said to contain 30 per cent. Cobalt, London Mine, Churchill county, Nevada, contributed by W. M. Hanenor.

546.—GRAY COPPER TETRAHEDRITE AND GOLD, Morntezuma Mine, Ingo county, Cal., contributed by W. M. Havenor

547.—GALENA AND CARBONATE ORE, Foundation, Limestone, 15 per cent Lead, 36 ounces Silver per ton, Jasper Mining Co., Wells, Nev., contributed by W. M. Havenor.

548.—ARGENTIFEROUS GALENA, Limestone and Slate Foundation, 85 per cent Lead, 73 per cent Silver per ton, New Boston District, May Queen Mine, contributed by W. M. Havenor.

549.—ARGENTIFEROUS, GALENA. Limestone and Slate Foundation, 75 per cent Lead, $100 Silver per ton, Galena Mine, Lander county, Nev.. contributed by W. M. Havenor.

550.—ARGENTIFEROUS GALENA ORE, $812 per ton Silver, Galena District, Lander county Nev., contributed by W. M. Havenor.

551.—CARBONATE ORE WITH OXIDE OF ARSENIC CRYSTALS Richmond Mine, Eureka, Nev., contributed by W. M. Havenor.

552.—Quartz Crystal on Sulphates of Silver, Gray Eagle Mine, Eureka, Nev., contributed by W. M. Havenor.

553.—Wolframite or Molbydate of Lead, Richmond Mine, Eureka, county, Nev., contributed by W. M. Havenor.

554.—Soda, formed on the shores of Soda Lake by evaporation, colored by some vegetable matter, Soda Lake. Churchill county, Nev., contributed by W. M. Havenor

555.—Gold Ore, found in Limestone, $200 per ton, one large Mine of Gold found in Limestone, La Panta Mine, Esmeralda county, Nevada, contributed by W. M. Havenor.

556.—Gold in Limestone, in the condition taken from the Mine, $200 per ton, La Panta Mine, Garfield District, Nevada, contributed by W. M. Havenor.

557.—Pargasite, $200 per ton, Limestone and Slate formation Bell Mine, Garfield District, Esmeralda county, Nev., contributed by W. M. Havenor.

558.—Carbonate of Copper, United Varde Mine, Arz., contributed by W. M. Havenor.

CATALOGUE OF PLANTS AND PAINTINGS OF THE LEMMON HERBARIUM.

TABLE I.—FERNS AND THEIR ALLIES.

Polypodium Californicum.
" Scouleri.
" thysanolepis. (New to United States).
Gymnogramme triangularis.
" hispida.
Notholœna sinnata.
" ferruginea.
" Parryi.
" Lemmoni. (New Species).
" Grayi. (New Species).
" Aschenboriana. (New to United States).
" candida.
" tenera.
" Hookeri.
" nivea.
Cheilanthes Lindheimeri.
" Cudigera. (New to United States).
" villosa. (New Species).
" scariosa. (New to United States).
" viscida.
" marginata. (New to United States).
" Fendleri.
" tomentosa.
Pellœa Andromedœfolia.
" cordata.
" brachyptera.
" Wrightiana
" Bridgesii.
Lomaria spicant.
Asplemum monanthemam. (New to United States).
Aspidiuns aculeatum.
" " *Var.* Californicum.
" munitum.
" Nevadense. (New Species).
" Mohrioides. (New Species).
" patulum. (New to United States).
" juglandifolum.
Phegopteris alpestris.
Cystopteris bulbifera. (New to the West).
Woodsia obtusa, *Var.* glandulosa,

TABLE II.—PLANTS OF SPECIAL INTEREST.

Five mounted specimens of the *Darlingtonia Californica* or vegetable fly-trap, showing various devises for its peculiar mission, at different stages of its growth; also, (in covered glass,) devices for securing cross fertilization of seed, etc.

Drosera rotundifolia, also a fly-trap.

Four mounted specimens of three species of Solanum or Potato, indigenous to Arizona and New Mexico, accompanied by two paintings.

Parkinsonia microphylea. (Leafless Tree).
Sarcodes sanguinea. (Snow Plant).
Asclepias Lemmoni. (New Species, large leaved).
Asclepias, rubulata. (With mere vestiges of leaves.)
Martynia proboscidea. "Mule Grab."
Foquiera splendens. "Candle Wood."
Spraguea umbellata. "Cat's Paw."
Dendromecon rigidum. "Tree Poppy."
Antennaria dioica. Am. "Edelweis."
Eritrichium Torreyi. "Indian Paint."

CLOVER FAMILY.

Medicago denticulata. (Burr Clover.)
Trifolium cyathiferum.
" fucatum.
" ciliatum.
" involucratum.
" Lemmoni, (New Species).
" longipes.
" Macrai.
" Kingi.
" megaceplialum.

OTHER FORAGE PLANTS.

Ceanothus Fendleri.
Lupinus Burkii.
" meionanthus.
Sidalcea Neo-Mexicana.
Eurotia lanata.
Erodium moschatum.
" cicutafolium.
Astragalus Lemmoni. (New Species).
Phoscolus retusus.

TABLE III.—MEDICAL OR POISONOUS PLANTS.

Frasera speciosa. "Pleurisa Root."
Eryngium Wrightii. "Rattle-snake's Master."
Arolia Californica. "Cal. Sarsaparilla."
Erythræa speciosa. "*Canchal Agua.*"
Valeriana Arizonica. (New Species.)
" edulis. "Edible Valerian."

Megarrhiza Californica. "Big Root."
Oxytropis Lamberti. "Loco Weed."
Zigadens Fremonti. "Poison Lily."
Ephedra Nevadensis. "Spanish Tea."
Eriodictyon glutinosum. "Yerba Santa."
Anemopsis Californica. "Yerba Manza."
Grindelia robusta. "Cough Cure."
Ligusticum apiifolium. "Cow Poison."
Jotropa macrorhiza. "Big Man-root."
Aconitum Columbianum. "Oregon Monk's-hood."
Euphosbia Pringlei. (New Species),
" setulosa, "Sheep Poison."
Sium cicutœfolium. "Water Parsnip."

HONEY MAKING PLANTS.—MINT FAMILY.

Andibestia polystachya. "White Sage."
" stachya. "Button Ball."
Monardella lanceslata.
" villosa.
" hypolenca. (New Species).
Salvia columbarœ.
" carduacea. "Thistle Sage."
Monarda fistulosa. "Horse Mint."
Micromeria Douglasii. "Yerba Bueno."
(This plant gave the first name to San Francisco.)
Hedeoma dentata. "Penny royal."

OTHER HONEY PLANTS.

Berberis Fremonti.
Eriogonun ursinum. (New Species).
Ivesia Webberi. (New Species).
Brickellia Lemmoni. (New Species).
Adenostoma fasciculata. "Chapperal."
Cowania Mexicana. "Cliff Rose."
Heteromeles arbutifolio. "Christmas Holly."
Eupatorium ageratifolium.
Prunus illcifolia. "Holly Cherry."
Spirœa Douglasii.

TABLE IV.—NEW OR RARE PLANTS.

Lilium Parryi. (New Species).
Ipomea spærorhina. (New Species).
" Lemmoni. (New Species).
Stevia Plummerœ. (New Species).
" amabilis. (New Species).
Dolea Ordiœ. (New Species).
Astragalus Pulsiferæ. (New Species).
Lophomia Lemmoni. (New Species).
Gentiana microcalyx. (New Species).

Tagetes Lemmoni. (New Species).
Bidens " (New Species)
Allium " (New Species).
" Plummeræ. (New Species).
Aster Lemmoni. (New Species).
Mimosa " (New Species).
Astragalus fallax. (New Species).
Asclepias pinifolius. (New Species).
Gilia Lemmoni. (New Species).
Linuno Neo-Mexicana. (New Species).
Silene Lemmoni. (New Species).
Mimulus Mohavensis. (New Species).
Ranunculus Lemmoni. (New Species).
Cologania " (New Species).
Brodiæa Lemmonæ. (New Species).
Corydalis Corseana. (New Species).
Margaranthus Lemmoni. (New Species).
Senicio " (New Species).
Dalea " (New Species).

COMMEMORATIVE GENERA.

Solazaria Mexicana.
Tolmiea Menziesii.
Nicolletia occidentalis.
Bolandra Californica.
Kelloggia golioides.
Whitneya dealbata.
Lemmonia Californica.
Hollisteria lanata.
Hastingsia alba.
Greenella Arizonica.
Plummera floribunda.
Reddingia Mohavensis.

} In the order of discovery.

TABLE V.—FOOD AND TEXTILE PLANTS.

INDIAN ROOTS AND FRUITS.

Psoralea mepbitica.
Rubus lencodermis.
Ribes Menziesii
Carum Hollii.
Lycium Andersoni.
Cymopterus terebinthmus.
Pencedanum farinosum.
Prosopus juliflorus, (Flower and Fruit.)
Camassie esculenta.

TEXTILE PLANTS.

Yucca macrocarpa. (Flowers and Leaves.)
" Whipplei. "Spanish Bayonet"
" angustifolia " "
Dasylirion Wheeleri. "Saw tooth"
Agave heteracantha. "
" Shottii "
" Parryi. "
" Palmeri. "

ORNAMENTAL PLANTS.—HERBS.

Enothera trichocalyx.
Hibiscus Coulteri.
Macrosyphonia Wrightii.
Henchera sanguinea.
Mentzelia tricuspis.
Anisocoma acaule.
Nemophila insignis.
Gilia densiflora.
Geum triflorum.
Baleya multiradiata.

SHRUBS AND TREES.

Robinia Neo-Mexicana.
Fraxinus pistaciafolia.
Arbutus Menziesii.
Styrax Californica.
Platinus occidentalis.
Garreya Lindheimeri.
Ingenhousia triloba.
Arctostaphilos tomentoso.
Rhododendron Californica.
Cornus Nuttallii.

TABLE VI.—GRASSES AND SEDGES.

Eriochloa Lemmoni. (New Species.)
Panicum bulbosum. "Panic Grass."
" lencopheum.
" obtusum.
" sanguinale.
" proliferum.
Hilaria mutica.
" rigida. "Mule forage."
Heteropogon Allioni.
Elionurus candidus.
Chrysopogon nutous. "Golden grass,"
Alopecurus geniculatus.

Phalaris amethystinee. "Canary grass."
" intermedia.
Stipa vaseyana. (New Species.)
" speciosa. "Weather Grass."
" Stillmani.
Aristida Humboldtiana. "Hair Grass."
" Scheidiana.
Phlenm olpinum. "Mountain Timothy."
Trisetum canescens.
Orizopsis parviflora.
" cuspidata. "Rice Grass," "Bunch Grass."
Sporobolus Wrightii.
" tricholepis.
" Arionicus. (New Species.)
Sporobolus cryptandrus.
Epicampes rigens.
Muhlenbergia gracilis.
" distichophylla.
" Texanum. "Mesquite Grass."
" dumosa. "Mattrass Grass."
" glomerata.
" Wrightii.
Festuca ovina. "Sheep Fescue."

TABLE VII.—GRASSES AND SEDGES, CONCLUDED.

Deyenxia cæspitosa.
" neglecta.
Holcus lanatus.
Chloris alba.
Trichloris verticillata.
Boutelona oligostachya. "Grama," "Buffalo Grass."
" *Var* Major.
" Rothrockii. (New Species.)
" Havardii. (New Species.)
" hirsuta.
" racemosa.
Lamarkia aurea. (Acclimated in California.)
Pappophorum Wrightii.
Triodia mutica.
" avenacea.
Eragroatis lugens.
" majór.
Kosleria cristata. "Crested Grass."
Diplachus aubia.
" imbricata.
Poa Californica. "California Blue Grass."
Bromus grandiflorus.

Glyceria. Lemmoni. (New Species.)
Deschampsia cæspitosa.
" " *Var* tennifolia.
Avena fatua. "Wild Oats."
Leptochloa nucronata.
Tripsacum Lemmoni. (New Species.)
Discovered while we were witnessing an Indian massacre five miles distant.

The tables for grasses hold only twenty-eight specimens each, but a narrow space on each side is used for displaying eight lilies and orchids, to wit:

Brodiœa laxa.
Fritillaria liliacea.
Allium platyphylla.
Cyripedium montanum.
Lilium columbianum.
Calochortus splendens.
" luteus.
Brodiœa Bridgeaii.

WATER COLOR PAINTINGS.

Large ones in frames.

1. Eschscholtzia Californica. (White Flowered.)
2. Convolvulus Californica. (White Flowered.)
3. Sarcodes sanguinea. "Snow Plant."
4. Colochartus, (Several Species.) "Butterfly Tulips."
5. Solanum tuberosum *Var.* boreale. "Potato."
6. Solanum Jamesii. "Potato."

In frames over two of the tables.

1. Mimulus cardinalis. "Cardinal Flower."
2. { Jacquemontia Pringlei. (New Species."
 { Ipomea leptotoma
3. Ingenhousia triloba.
4. Group of Arizona Flowers and Grasses.
5. Zarrea Mexicana. "Creosote Bush."
6. Pentstemon Palmeri.
7. Hesperocallis undulata. "Desert Lily."
8. Argemone hispida.
9. Helianthus, (Unnamed.) "Sunflower."
10. Camassie esculenta. "Indian Food."
11. Lilium Columbianum.
12. Tribulus grandiflorus.
13. Mohavea viscide.
14. Pinus reflexa. (New Species.)
15. Group of Arizona Flowers.
16. Dodecatheon Meadea.
17. Stachys coccinia.
18. Group of California Flowers.
19. Œnothera trichocalyx.

20. Zinnia grandiflora.
21. Godetia Xantiana.
22. Lilium Washingtonianum.
23. Eschscholtzia Californica. (Typical)
24. Trifolium Lemmoni. (New Species.)
25. Heuchera sanguinea. (With a Fern.)
26. Group of California Flowers
27. Aster tortifolius.
28. Heterotheca, Small. Unnamed.

Extra plants in deep frames.

1. Darlingtonia Californica "Fly-trap."
2. Platanus Wrightii. (New Species.)
3. Panicum Bulbosum. (Very Valuable.)

ALAMEDA COUNTY.

This county is separated from San Francisco by San Francisco Bay. It contains 512,000 acres, 487,293 of which are assessed, leaving 24,807 acres of waste land, some of which is partially covered by water from the bay, the remainder being mountain waste. The county is 32 miles long, and from 6 to 20 miles wide. It has nearly every variety of land, from low level tide lands to rolling mountain grazing lands. The topography of the county is a succession of low rolling hills and valleys; and in general aspect, the county faces to the southwest. Along the bay, on its west side, is a strip of land from 6 to 15 miles wide, that is from a few to several hundred feet above the sea level, all of the very choicest agricultural land. Along the water's edge there are from 20,000 to 25,000 acres of tide land, a great portion of which has been reclaimed. In the eastern portion of the county is Livermore Valley, which is an elevated plain, from 350 to 500 feet above sea level; this valley is from 12 to 15 miles in length, and from 4 to 8 miles in width, and is surrounded by a low range of mountains. Alameda has sufficient timber for fuel. The live oak is found in nearly all the valley portion of the county, with some scattered sycamore, madrone and willows, and, in the vicinity of Livermore Valley, there is considerable white oak.

At Berkeley, near Oakland, in this county, is situated the State University, one of the finest educational institutions in the country. In Oakland and the vicinity there are a number of excellent schools and academies. One of the most noteworthy being Mills Seminary which is solely for young ladies, and is one of the pioneer scholastic establishments of the Pacific Coast.

EXHIBITS FROM THE AGRICULTURAL DEPARTMENT OF THE UNIVERSITY OF CALIFORNIA, BERKELEY.

This very large and interesting collection of Grains, consisting of fifty-one varieties of Wheat; twenty-five varities of Barley; three varities of Spelts; two varieties of Em-

mer; three varieties of Oats; three varieties of Rye were raised in the experimental grounds of the State University from seed mostly imported from Europe to test their adaptability to the climate of California.

The varieties are as follows:

WHEAT.

Archer Prolific Wheat.
Wheat from Atlanti.
Petali Wheat.
Egyptian Wheat.
Fern or April Wheat.
Frankenstein Wheat.
Mold's White Wheat.
Spalding's Prolific Wheat.
Red Club Wheat.
California Spring Wheat.
Hungarian Mountain Wheat,
Black Bearded Centennial Wh.
Zeland Wheat.
Champlain Wheat.
Perennial Wheat.
Siberian Wheat.
Chiddam Wheat.
Bearded Wheat.
White Taganrog Wheat.
Red Bearded Wheat.
Hungarian Wheat.
White Essex Wheat.
Victoria Wheat.
Manchester Wheat.
Yellow Noé Wheat.
North Lausanne Wheat.
Smogge Wheat.
Volo Greek Wheat.
Austrian Wheat.
North Allerton Wheat.
Prince Albert Wheat.
Victoria Wheat.
Whittington Wheat.
White Velvet Wheat.
White Victoria Wheat.
Square Sicilian Wheat.
White Chaff Red Wheat,
Paine's Defiance Wheat.
White Llama Wheat.
White Flanders Wheat.
Thuringian Wheat.
White Banaté Wheat.
Rye Wheat.
Polish or Wild Goose Wheat.
Tunisian Wheat.
Blood Red Wheat.
Improved Circassian Wheat.
Common March Wheat.
Golden Drop Wheat.
Probsteier Wheat.
Odessa Wheat.

BARLEYS.

4 Rowed Black Barley.
4 Rowed Spring Barley.
Carters Prolific Barley.
Scotch two Rowed Barley.
Graymalaya Barley.
6 Rowed Barley.
Thuringian Barley.
Blue Barley.
4 Rowed Winter Barley.
Peacock Barley.
6 Rowed Winter Barley.
Italian Barley.
Frick's Drought Proof Barley
Kalina Barley
Manchurian Barley.
Small Blue Naked Barley.
Large Naked two Rowed Barley.
White Australian Barley.
Earliest Black two Rowed Barley.
Annat Barley.
Rice Barley.
Imperial Barley.
Chevalier Barley.
Eufurt Barley.
Nepaul Barley.

SPELTS.

Black Bearded Spelts. Common White Bearded Spelts
White Silician Spelts.

EMMER.

Black Emmer. Red Emmer.

OATS.

White Australian Oats. Common Oats.
Black Brie Oats.

RYE.

Perennial Saxon Rye. Swedish Sand Rye.
St. John's Day Rye.

MISCELLANEOUS.

Bark of Black Wattle.
Five varieties of Bamboo, as follows:
Chinese. Ringal.
Japanese. Mosa.
Metake.
Panicum Spectabile (Green Valley Grass.)
Festuca altissima.
Phormium tenex.
Broussouettia papyrifera.
Hungarian Broom Grass.
Milienm multiflorum, (Millet Grass.)
Bœhmeria Nivea, (Ramie), first crop cut August 8.
" " " second crop cut November 10.
Russian Flax, (fibre.)
Hemp, (fibre.)
Flower heads Persian Insect Plant.

ALAMEDA COUNTY AT LARGE.

Photographic views of the United States Experimental Silk Culture Station, Oakland.

Album of Pacific Coast Views, published by Eli Denison, Oakland.

Agricultural Map of California, by E. W. Hilgard, Prof. of Agriculture at the State University, Berkely.

THE PACIFIC INCUBATOR, manufactured by G. B. Bayley, Oakland Poultry Yards, Oakland, (N. Y. Agents Henderson & Stoutenborough, 270 Pearl St.) The Pacific Incubator has no machinery or electric battery to get out of order. It is constructed in a series of egg-chambers surrounded by galvanized iron tanks filled with water heated by the boiler below, and kept in constant circulation so long as the lamp is burning. The eggs are placed close to the water tanks above them and set on trays with strong galvanized wire

bottoms. A current of fresh air constantly passes through the chamber underneath the eggs, carrying away the carbolic acid gas thrown off by the embryo from time to time. Moisture is supplied by wet sponges placed under the egg drawers, the evaporation from which is continuous, and is in exact imitation of nature, the heat from the hen's body drawing moisture from the ground, when she makes her nest in a wild state.

THE PACIFIC BROODER, manufactured by G. B. Bayley, Oakland Poultry Yards, Oakland. This Brooder hovers from one hundred to one hundred and fifty chicks. The heated air coming from beneath, and being uniformly distributed over the whole surface of the brooder, there is nothing to cause crowding, and upon lifting the ventilator the chicks are found nestling close to the heated floor and spread over its whole surface.

"BEAUTIFUL SNOW," a cosmetic, manufactured by A. Bowman, Oakland.

"KING OF PAIN," C. L. Robinson, Oakland.

"KING OF AGUE," C. L. Robinson, Oakland. A remedy discovered and compounded by the well-known Professor C. L. Robinson of Norway, and composed of herbs and roots entirely. No quinine to cause ringing in the head and deafness, no mercury to ruin the bone and destroy health.

Soil from Orchard of F. Kelsey, one and a half miles from State University, Berkeley.

Beet Sugar, manufactured by the Standard Beet Sugar Refinery, Alvarado.

Butter Beans, raised in Alameda County, contributed by J. H. Thomas, San Francisco.

Dried Prunes and Cherries, W. H. Jessup, Haywards.

Butternuts, J. Shinn, Niles

Persian Walnuts, J. Shinn, Niles.

TYPICAL COLLECTION OF FRUITS PRESERVED IN CHEMICAL SOLUTION:

Apples, J. Shinn, Niles.
Coe's Late Red Plums, W. H. Jessup, Haywards.
Irkworth's Imperatrice Plums, W. H. Jessup, Haywards.
Spitzenburg Apples, W. H. Jessup, Haywards.

Home Made Olive Oil, Juan Gallagos Mission San Jose.

AMADOR COUNTY.

This county is on the western slope of the Sierras, and extends to the edge of the Sacramento Valley. It contains 300,000 acres of land. The western portion is broken into hills and rolling swells, with an occasional valley or stretch of plain between. The principal valley is the Ione, situated in the southwest portion. Its soil is of a loose sandy loam, and is very fertile; it is divided up into beautiful little farms, orchards and meadows; much of the surronndlng hillsides are planted in vineyard. This hilly or upland soil is of a reddish nature, and if excellent grape land. The principal water-courses are: the Mokelumne River, which drains the southern portion of the county, and the Cosumnes River, which, with its branches, drain the northern portion. Unlike many mining regions, Amador has an extraordinary soil. Increasing quantities are cleared and improved annually; the productions of which are wheat, barley, alfalfa, potatoes, wine and fruit. The foothills, and especially the valleys of the lower portion of the county, are very favorable localities for fine fruits and grapes.

The mineral resources of the county are coal, copper, gold.

Australian Wheat, raised by Mr. LaGrange, 6 miles south of Ione.

White Chili Wheat, raised by Mr. Dennis, 11 miles southwest of Ione.

Barley, raised by Mr. Bates, 5 miles southwest of Ione (on sandy loam soil.)

BUTTE COUNTY.

This county contains basin and foot-hill land. It has an area of 1,100,000 acres; 400,000 acres are valley lands, and 600,000 acres are foot-hill land. The whole surface of this county is well watered. The Sacramento River washes the eastern line, and the Feather River and the forks of the Yuba River furnish an ample water system for the rest of the county. Timber is abundant in the eastern portion for all the uses of building, fencing and fuel. There are quarries of lime and sandstone and granite in the mountain regions. There are brickyards and lime kilns in various parts of the county. There are vast grazing ranges in the foot-hills and mountains. All the cereals are produced, and for quality and quantity are not excelled in the United States. All the fruits of the temperate and semi-tropical climates are grown. The foot-hill region is especially adapted to fruit growing.

Around Oroville, the county seat, oranges, lemons, figs, olives, pomegranates, the rich and delicate German, French, Italian and Spanish table, wine and raisin grapes are grown in profusion.

"Rancho Chico," the beautiful home of Gen. John Bidwell, is situated at Chico. The extensive and varied collection of productions from "Rancho Chico," clearly show the capabilities of this northern county.

CANNED FRUITS FROM RANCHO CHICO CANNERY, CHICO.

Following varieties preserved in tin.

Yellow Cling Peaches.	White Cling Peaches.
White Free Peaches.	Yellow Free Peaches.
Napoleon Cherries.	Black Tartarian Cherries.
Apricots.	Bartlett Pears.

Following varieties preserved in glass.

Cherries.	Black Raspberries.
Peaches.	Currants.
Apricots.	Gooseberries.
Bartlett Pears.	Raspberries.

Large Case Nuts and Dried Fruits

From Rancho Chico, Chico, property of Hon. John Bidwell, containing,

French Prunes.	Muscat Raisins.	English Walnuts.
Salway Peaches.	Malaga Raisins.	Mammoth Almonds.
Gen. Hand Plums.	Muscatel Raisins.	Languedoc Almonds
Mixon Peaches.	American Chestn'ts.	Paper Shell Almonds
P'rple Duane Pl'ms.	Spanish Chestnuts.	Silk Shell Almonds.
Evapor'ed Cherries	Italian Chestnuts.	Pecans.
Evaporated Apples.	Black Walnuts.	Peanuts.
Apricots.	California Black Walnuts.	

Samples of Fruit Tree Growth from Rancho Chico.

Property of Hon. John Bidwell, as follows :

Yellow Egg Plum, five months from bud.
Purple Duana Plum, five months from bud.
Washington Plum, (on Apricot Root), five months from bud.
Columbia Plum, (on Peach Root), five months from bud.
French Prune, (on Apricot Root), five months from bud.
French Prune, (on Almond Root), five months from bud.
French Prune, (on Peach Root), five months from bud.
Fellenburg Prune, (on Peach Root), five months from bud.
Silver Prune, (on Peach Root), five months from bud.
Black Tartarian Cherry, five months from bud.
Napoleon Bigarreau Cherry, five months from bud.

Stalks of Forage and Other Plants.

From Rancho Chico, Chico. Property of Hon. John Bidwell, as follows:

Sorghum—(Chinese Imphee.)
Sorghum—(Red Imphee.
Chinese Sugar Cane.
White Sorghum.
Broom Corn.
Golden Millet.
East India Millet—(Pencellaria spicata.)
Evergreen Millet.
German Millet.
Red Egyptian Corn.
Ramie.
Native Grape Vine.
Mammoth Sun Flower.

Grain from Rancho Chico, (Soil Sandy Loam),

Chico, Butte County, the property of Hon. John Bidwell, (specimens shown in sheaf and threshed.)
Andros Island Wheat, weight 64 pounds per bushel.

No. 1 Atlanti Greek Wheat, weight 67 pounds per bushel,
Australian Blue Stem Wheat.
Black Bearded Centennial Wheat, yield 36 bushels per acre, weight 64 pounds per bushel.
Black Bearded Macaroni Wheat, yield 29 bushels per acre, weight 69 pounds per bushel.
Brennan Wheat, yield 17½ bushels per acre.
Champlain Wheat, weight 63 pounds per bushel.
Defiance Wheat, weight 63 pounds per bushel.
Gennesee Wheat.
Hunter Wheat.
Lohle Wheat, yield 27 bushels per acre.
Macaroni Wheat, weight 64 pounds per bushel.
Mansion Wheat.
Mold's Red Winter Wheat, weight 66 pounds per bushel.
New Prolific Wheat.
Norfolk Wheat, Yield 23 ¾ bushels per acre.
Odessa Wheat, weight 64 pounds per bushel.
Odessa No. 2 Wheat, weight 66 pounds per bushel.
Pride of Butte Wheat, weight 64 pounds per bushel.
Pringle's Grandee Wheat.
Proper Wheat, weight 63 pounds per bushel.
Red Marslo Wheat, weight 66 pounds per bushel.
Salt Lake Club Wheat, yield 29 bushels per acre, weight 64 pounds per bushel.
Silver Chaff Wheat, weight 67 pounds per bushel.
Tagnarog Wheat, weight 67 pounds per bushel.
Tuscan Wheat, weight 63 pounds per bushel.
White Australian Wheat, weight 62 pounds per bushel.
White California Wheat, weight 65 pounds per bushel.
X. Wheat, yield 20 bushels per acre, weight 66 pounds per bushel.
X. X. Wheat, yield 29 bushels per acre.
X. X. X. Wheat, yield 29½ bushels per acre, weight 65 pounds per bushel.
Red Rye, yield 38¼ bushels per acre.
Black Two Rowed Barley, yield 44 bushels per acre.
Carlattan Barley.
Imperial Barley, yield 31 bushels per acre.
Nepal Barley, yield 26 bushels per acre.
Scotch Two Rowed Barley.

Threshed Grains from Butte County.

Pride of Butte Wheat, raised by T. Losee, Chico.
California Wheat, raised by J. Entler, Chico, yield 50 bushels per acre, weight 52 pounds per bushel, soil red loam.
Centennial Wheat, raised by Peter Jones, 8 miles south of Chico, yield 38 bushels per acre.

Centennial Wheat, raised by Peter Jones, Chico, yield 38 bushel per acre, weight 64 pounds, soil sandy loam.
Centennial Wheat, raised by J. F. Entler, Chico, yield 32 bushels per acre.
Propo Wheat, raised by James Farrell, Chico,
Sonora Wheat, raised by D. F. Crowder & Bro., Chico, yield 35 bushels per acre, soil black adobe.
Salt Lake Club Wheat, raised by T. Losse, Chico, weight 64 pounds per bushel.
Salt Lake Club Wheat, raised by G. W. Warfied, Chico, yield 32 bushels per acre, weight 62 pounds per bushel.
White Australian Wheat, raised by O. H. Fuller, Chico.
White Australian Wheat, raised by O. H. Fuller, Chico, soil dark adobe.
Chevalier Barley, raised J. F. Entler, Chico, yield 48 bushels per acre.
Foot Hill Barley, raised by G. W. Warfield, Chico, soil gravelly loam.
California Barley, raised by Peter Jones, Chico, yield 50 bushels per acre, soil sandy loam.
Club Wheat, raised near Nelson, on Esquon Rancho, property of Hon. Leland Stanford.
Salt Lake Club Wheat, (threshed and in sheaf), raised on Esquon Rancho, property of Hon. Leland Stanford, near Nelson.
White Australian Wheat, raised on Esquon Rancho, property of Hon. Leland Stanford, near Nelson.
Chili Wheat, raised by Geo. Speres, 3½ miles south-east of Gridley, river bottom land.
Gennesee Wheat, raised by Geo. Speres, 3½ miles south-east of Gridley.
Snow Flake Wheat, raised by Geo. Speres, 3½ miles south-east of Gridley.
Propo Wheat, raised by M. Wick, 6 miles north-west of Oroville, yield 30 bushels per acre, soil black loam.
White Club Wheat, Raised by M. Wicks, 6 miles north-west of Oroville, yield 30 bushels peracre,

CALAVERAS COUNTY.

One of the oldest settled counties in the State, and justly celebrated in the early days of its settlement for the fabulous yield of virgin gold from its rivers, gulches and deep channel diggings, is located on the western slope of the Sierras, in the central part of the State, lying immediately east of San Joaquin, south of Amador, west of Alpine, and northwest of Tuolumne County. It is about 60 miler in length, with an average width of 30 miles. and has an area of 622,000 acres. The entire county may justly be regarded as a bed of mineral deposits, gold predominating; the baser metals, such as copper, iron and cinnibar are abundant, besides the magnificent ledges of marble, limestone and granite, and her undeveloped beds of coal, which are known to exist.

The principal natural wonders of the county are the world-renowned Big Trees, the extensive cave, with its truly charming chambers, and the wonderful natural bridge, all of whieh are annually visited by tourists from all parts of the world. The immense timber belt, for grandeur, extent, diversity, and magnificent proportions, has no parallel in the entire timber belt on the western slope of the Sierras. Calaveras is one of the best watered sections of the State, her eastern border being defined by the Stanislaus River, the western by the Mokelumne, and the central portion, longitudinally, is drained by the Calaveras River and its tributaries. These streams and their branches are tapped at various points, and their waters distributed by artificial means, chiefly for mining purposes, to all sections of the country.

BIG TREE.

Cross Section eighteen feet in diameter, taken ninety-six feet above the ground, from "The Original Big Tree" in the Calaveras Big Tree Grove, the property of James Sperry.

This section apart from its great size is remarkable as being a piece of the first tree of this species that was discovered. The tree has lain on the ground since 1853, when it was felled, and not only is the centre of the tree sound, but

the perishable sap wood just beneath the bark is also sound. This tree was felled by means of pump augers. Five men worked twenty days in boring before the trunk was cut through. The tree was ninety-six feet in circumference at the base.

The *Sequoia gigantea* (or Big Tree) as well as its brother the red wood, is found in California only.

Bark of the Big Tree, two feet in thickness.

Growing specimens of the tree from the nursery of John Rock, of San Jose.

Photographs of cutting the "Original Big Tree," taken by Sripture.

Photographs of views in the Calaveras Big Tree Grove, by Taber, of San Francisco.

White Australian Wheat, raised by L. Wilcox, six miles from Milton, yield 25 bushels per acre.

White Chili Wheat, raised by C D. Reynolds, 3½ miles from Milt n, yield 24 bushels per acre.

White Australian Wheat (winter sown), raised by James Gill, six miles from Milton.

Collection of twenty-one varieties garden seeds, from Mrs. E. A. Hill, Camanche.

Specimen of Lime Rock.

COLUSA COUNTY.

Colusa County has an area of 1,700,000 acres. There are 800,000 acres of valley lands, 350,000 acres of foot-hill lands, and 550,000 acres of Coast Range lands.

All the cereals are produced in this county. In 1884, the wheat produced was 10,000,000 bushels; barley to the amount of 1,600,000 bushels was raised. The average yield of wheat was twenty bushels; of barley, twenty two bushels. All the vegetables grow in abundance, and of the best quality, in Colusa soils. Apples, peaches, pears, plums, cherries, apricots, nectarines and prunes are grown in all parts of the county. All the grapes of the world flourish here. The mulberry tree finds a congenial home in Colusa soil and climate. Oranges, lemons, figs, olives, pomegranates and the citron are grown

The whole range of the productions of the temperate and semi-tropical climate, the equal in quantity and in quality of any place in the world, can be grown in Colusa County.

White Wheat, raised by J. Wilson, 6 miles north of Corning.
Club Wheat, raised by P. Van Winkle, 2 miles west of Corning.
Club Wheat, raised by Chittenden Bros., 3 miles west of Corning.
Club Wheat. raised by F. M. Wright, 8 miles west of Corning.
Club Wheat, raised by C. Schulter, 3 miles south of Corning.
Club Wheat, raised by J. W. Bondurant, 6 miles east of Germantown. contributed by Eppinger & Co.
Salt Lake Club Wheat, (Summer fallow) raised by W. J. Harris, 5 miles north east of Germantown.
Propo Wheat, raised by W. J. Harris, 6 miles north east of Germantown.
Small Club Wheat, raised on estate of late H. J. Glenn, Jacinto. contributed by Eppinger & Co.
Club Wheat, (Summer fallow) raised by Jas. Daveny, 6 miles east of Germantown, contributed by Eppinger & Co.
Australian Blue Stem Wheat, raised by W. H. Rapst, 5 miles north east of Germantown,

Club Wheat, (Summer fallow) raised by W. Murphy, 3 miles north east of Germantown.
Club Wheat, (Summer fallow) raised by Hans Mehrens, 4 miles west of Germantown.
Club Wheat, (Summer fallow) raised by J. H. Storey, 3 miles northwest of Germantown.
Club Wheat, raised by M. E. Nordyke, 5 miles northeast of Germantown.
Club Wheat, raised by Henry Runge, Germantown.
Club Wheat, raised by Jas. Cudd, Germantown, (Summer fallow.)
Snow Flake Wheat, (sheaf), raised by W. F. Maron, Norman.
Cling Peach, Bunker & Golden, Colusa.

CONTRA COSTA COUNTY

Is bounded on the north by Solano and Sacramento Counties, the San Joaquin River, Suisun Bay and the Straits of Carquinez forming the line; on the south by Alameda County and San Francisco Bay; on the east by San Joaquin County. It will thus be seen that the geographical position is a most desirable one, being about midway of the coast line of the State, fronting the Golden Gate, and with a water frontage of 70 miles on the western and northern border.

Contra Costa County has an area of 444,491 acres. The Coast Range of mountains run parallel with the ocean across the country, extending in a southeasterly direction. The most dis tinguished feature of this range is Mount Diablo, standing out boldly 3896 feet above the sea level, its location being very near the center of the county. Its prominence caused it to be selected by the government as the initial point of base and meridian lines in the survey for nearly two-thirds of the State's area. The immense coal fields of the Mount Diablo foothills are an important source of wealth to the county. The coal taken from the Mount Diablo District amounted to over 97,000 tons for the last year.

With the exception of coal mining, Contra Costa is mainly an agricultural county. Her exports are wheat, barley, oats, butter, live stock, hay and coal. The topography of the county is low hills and small valleys. The central valley is about fifteen miles in length, and from one to six miles in width.

Sample of Soil from San Pablo.
Sample of Soil from Sobrante.
Sample of Soil from near Cornwall.
Chevalier Barley, raised by M. Lewis, 1 mile north of San Pablo.
Barley, raised by M. Rivers. 2 miles north of San Pablo.
Australian Oats, (sheaf), raised by T. Gately, 3 miles north east of San Pablo.
TYPICAL COLLECTION OF GRAPES, from Dr. J. Strentzel, Martinez, preserved in chemical solution.
Corinthian, California Mission, Black Morocco, Royal Nice, Black Ferrar.

EL DORADO COUNTY.

This is an exclusively foot-hill and mountain county. It has an area of 1,500,000 acres; 500,000 are tillable foot-hill land, and comprise some of the best fruit, grain and grass lands in the world. There is no county in the State better watered than El Dorado. The American and Cosumnes Rivers take their rise in the Sierra range in this county. They have numerous tributaries that drain the whole county. From these streams a network of ditches takes the pure water over every part of the county. From every hill and mountain side lasting springs of crystal water burst forth. These two streams—the American and Cosumnes—furnish water power for an unexampled manufacturing interest. The mountains furnish thousands of acres of the best timber, in which are mills that produce cheap lumber. Building stone is abundant and easily quarried, and of the best quality. Brick and lime are cheap. Grazing is a leading branch of agriculture. The foot-hills and mountains furnish wide ranges for pasturage. Dairying is an important and growing industry. The great mountains are ribbed with mines of precious metals, which are now extensively mined.

Table, wine and raisin grapes are grown on all the hill-sides. Apples, peaches, prunes, plums, cherries, and all the small fruits, in quality or quantity, are excelled no where in the State. Many of the semi-tropical fruits are grown. All the cereals and vegetables yield an abundant return to the farmer.

Placerville is the county seat, and has a population of 2,000, and is rapidly increasing in business, wealth and trade.

In this county gold was first discovered January 19, 1848. This caused the great gold rush to California.

White Chili Wheat, raised by John Meder, Green Valley.
Black Peerless Wheat, raised by C. H. McCuen, near Placerville.
White Australian Wheat, raised by C. H. McCuen, Placerville.
Cebetus Tree Canes, from J. A, Scott, Fair Play.

Slate from quarry of Leonard Regg, Kelsey's.

Stand made from manzanita, R. K. Berry, Shingle Springs.

Black Peerless Wheat, (sheaf), raised by C. H. McCuen, near Placerville.

Wheat (sheaf), raised at Smith's Flat, $2\frac{3}{4}$ miles east of Placerville.

Egyptian Wheat (sheaf), raised by C. H. McCuen, near Placerville.

Rye (sheaf), raised near Salmon Falls.

Cultvatied Wild Oats (sheaf), raised by Arthur Williams, near Placerville, growth from one seed.

Arabian Evergreen Millet (bundle), raised near Placerville.

Flax (sheaf), raised by C. McCuen, near Placerville.

Evaporated Apples, Plummer process, Ed. N. Congden, Placerville.

German Prunes, Plummer process, Ed. N. Congden, Placerville.

Blackberries, Plummer process. Ed. N. Congden, Placerville.

California Native Grasses.

Typical Collection of Fruits, preserved in chemical solution.

Golden Drop Plum, Wm. Handix, Placerville.
Pond Seedling Plums, J. T. O'Brien, Gold Hill.
Purpal Duane Plums, J. T. O'Brien, Gold Hill.
Double Plums, J. T. O'Brien, Gold Hill.
Bartlett Pears, J. L. Bamber, Placerville.
Quince, W. H. Valentine, Coloma.
Golden Bell Flower Apple, J. L. Bamber, Placerville.
Prunes, James Donahue, Placerville.
Pears, James M. Hales, Placerville.

Soil sample, Yarrington, 5 miles north of Mormon Island.

FRESNO COUNTY.

Fresno is the third county in area in the State, containg 5,600,000 acres of surface. Of this vast territory, 4,400,000 acres may be classed as mountainous and pasture lands, and about 1,200,000 as agricultural and fruit lands. This county lies between the 36th and 37th degrees latitude, and is very nearly the central part of California, extending northeasterly and southwesterly a distance of 120 miles, and its average breadth is something over 65 miles.

Fresno County has 2,092,800 acres, a little over one-third of its total area, lying in what is known as the Great San Joaquin Valley. This valley, calculating from the Sacramento River south to Fort Tejon, has a length of about 250 miles, and an average breadth of about 50. The county affords almost every variety of soil, and a dozen varieties may be found often within an area of two miles square. Along the foot-hills from the San Joaquin River south, are several miles of red clay land, mixed with white quartz, as much like the Malaga grape lands of Spain as could be. Strips of this land extend as far down upon the plains as Fresno. The great bulk of the plain land of the entire eastern slope, however, is a soft, sandy loam, mixed with clay, sand, decayed animal and vegetable matter, iron, and other mineral salts. Irrigation is all that is required to make every acre of this plain a garden spot; and there is, fortunately, an abundance of water to be used for this purpose.

Soil from Sycamore.
Soil from Fresno Colony, 1½ miles south of Fresno (Hughes Tract).
Soil, Bank of California Tract, near Fresno.
Hard pan soil, brought up three feet from below the surface by squirrels, 1½ mile south of Fresno.
P ropo Wheat, raised by W. Helm, 6 miles from Fresno City. Yield 25 bushels per acre.

Propo Wheat, raised by R. T. Owens, 8 miles from Fresno City. Yield 40 bushels per acre.

White Australian Wheat, raised by J. P. Vincent, 10 miles from Fresno City, 1,000 acres, averaging 42 bushels per acre.

Sonora Wheat, raised by Mrs. E. Ellis, 16½ miles from Fresno City. Yield 30 bushels per acre.

Propo Wheat, raised by Edwin Dudley, 1 mile west of Selma.

Sonora Wheat, raised by C. W. May, 5 miles northeast of Selma.

Sonora Wheat (winter sown), raised by J. L. Harp, 3 miles east of Kingsburg. Yield 28 bushels per acre.

Propo Wheat (winter sown), raised by G. S. Fulgham, 3½ miles west of Kingsburg. Yield 28 bushels per acre.

Sonora Wheat (winter sown), raised by J. C. Smith, 5 miles southwest of Kingsburg. Yield 25 bushels per acre.

Nepaul Barley (sheaf), raised by Webster & Sargent, 1 mile west of Mintern, showing two crops raised on sandy soil in one season without irrigation.

Barley (sheaf), raised by Webster & Sargent, 1 mile west of Mintern, showing two crops from same seed in one season without irrigation.

Oats, (sheaf), raised by Webster & Sargent, 1 mile west of Mintern, showing two crops from same seed without irrigation.

Sonora Wheat (sheaf), raised by John S. Dore, 3 miles west of Fresno City, raised without irrigation.

Native grass (bundle), Fresno City.

Egyptian Corn (bundle), raised by R. White, Fresno City.

Sample of Apricot growth from tree one year old from bud. Tree planted March 20, 1884. Sample cut June 80, 1884. Raised by John S. Dore, "West Park." Bank of California Tract, near Fresno. Irrigated once to settle land after plowing. Well on place thirteen feet to water.

Corn (stalks), raised by Haber & Brown, Fresno City.

Indian mortar for grinding acorns, found on the Fresno plains. From W. P. Haber, Fresno.

Map of Fresno County.

COLLECTION OF WINES from "Barton Vineyard," Fresno
Robert Barton, proprietor.
Claret, 1883 and 1884.
Burger, 1883 and 1884.
Port, 1883 and 1884.
Muscat, 1883 and 1884.
Cognac, 1883 and 1884.

COLLECTION OF WINES from "Eisen Vineyard," Fresno. Office 12 Stevens n Street, San Francisco.
Zinfandel Claret, 1882.
Tenturier Sweet Port.
Dry Sherry.
Reisling.
Dried Peaches, C. A. Henry, Fresno.
Dried Figs, B. Marks, Fresno.

TYPICAL COLLECTION OF FRUITS, PRESERVED IN SOLUTION.

Peaches, W. P. Haber, Fresno
Grapes, Muscat of Alexandria. W. P. Haber, Fresno.
Grapes, Zinfandel. M. Denicke.
Bell Flower Apples. W. P. Haber, Fresno.
White Cling Peach. J. L. Howe, Fresno.
California Black Fig, J. W. Reese, Fresno.

CALIFORNIA RAISINS from "Vista de Nieve Vineyard." Wm. Forseyth, Fresno. W. T. Coleman & Co., sole agents, San Francisco.
London Layers, Loose Muscatels.

CALIFORNIA RAISINS from "Marbelle Vineyard." John W. Pew, Fresno. W. T. Coleman & Co., sole agents, San Francisco.
London Layers, Loose Muscatels.

CALIFORNIA RAISINS from "Hedgerow Vineyard." M. F. Austin, manager, Fresno. W. T. Coleman & Co., sole agents, San Francisco.
London Layers, Loose Muscatels.
One box London Layers, packed in California Laurel.
One box Loose Muscatels, packed in box made from the California Big Tree.
One box Dehesia Raisins, packed in the Spanish style.

CALIFORNIA RAISINS, "Oleander," Curtis Fruit Co., Fresno. W. T. Coleman & Co., sole agents, San Francisco.
London Layers, Loose Muscatels.

HUMBOLDT COUNTY.

This County has more than 175 miles of coast line, and contains an area of 2,211,840 acres—being three times as large as the State of Rhode Island. Its length from north to south is 108 miles, and its greatest breadth is 48 miles. It is seperated by a wide strip of mountainous territory, untraversed by railroads, from Central California on the south, the Siskiyou or Coast Range seperating it from the great Sacramento Valley on the east: the typographical features resembling more some of the Eastern States than any other portion of California. There are no large valleys. It consists of rounded ridges, with prairies on top, and wooded sides and small valleys between. No spot on earth, of equal extent, was ever favored with such wealth in forest, so accessible to the world's highway, as Humboldt.

The lumbering interest exceeds all other industries in the county. The acreage of red wood timber within its borders are about 96 miles in length, and will average 12 miles in width, amounting to about 736,280 acres ; this timber will furnish from 50,000 to 100,000 feet to the acre; there are some localities that will produce 1,000,000 feet to the acre. The number of feet of standing redwood is variously estimated by mill men, and the figures given are, from seventy to one hundred billion feet.

Two Large Red Wood planks, California Redwood Company.

Black-eyed peas, contributed by J. H. Thomas, San Francisco.

Photograph of train loaded with sixteen Red Wood logs, measuring 88,568 feet from the logging woods of John Vance, Mad River.

INYO COUNTY

Lies east of the Sierras. It is almost as much isolated from San Francisco as though it belonged to some other State. This is a country where extremes meet; a country of startling contrasts, such as are to be found no where else on the continent; a country of rugged and giant peaks, among which are Mounts Whitney, Tyndall, Brewer, and others of the Sierras, the most elevated portions of the American continent, with chasms such as to render an ascent to their summits, from their eastern slopes, almost an impossibility; a country where, to the eastward of these, pointing heavenward, the earth's surface sinks hundreds of feet beneath the level of the sea; a country of beautiful and fertile plains, and, at the same time, of forbidding wastes; a country of almost Arctic frosts and perpetual snows, and torrid, scorching heat. Its principal, and almost only valley capable of settlement for agricultural purposes, is the valley of Owen's River, which takes its water fram the Sierras, nearly opposite the head-waters of the San Joaquin, and flowing thence a distance of 150 miles south, where it is lost in Owen's Lake. This valley is about 75 miles long, and from two to five miles wide. The principal farming is within this basin; not, however, in the valley of the river proper, but on the numerous small mountain streams flowing down from the Sierras on the west, from which the waters are derived for irrigation, producing wheat, barley, oats, corn and fruits—principally peaches and grapes. Whatever the farmer produces finds ready sale, at good prices, in the immediate mining districts of Inyo and across the line in Nevada.

One of the richest mines on the coast, known as the Union Consolidated, of the Cerro Gordo District, which lies in the Inyo Mountains, forming the eastern wall of Owen's Valley, has already yielded over $10,000,000.

CASTALIAN NATURAL MINERAL WATER, Forbes & Plaistead, agents, San Francisco.

KERN COUNTY.

This country is the most southerly of the great chain of counties of the San Joaquin Valley. Here the valley comes to an abrupt end, being shut off by a high chain of mountains, forming the main chain of the Sierra Nevada and the Coast Range. The valley portion, although covering nearly 1,000,000 acres, is but a small portion of the county, as the entire area is 5,137,920 acres.

The topography of the county is exceedingly diversified. The chaotic jumble of barren mountains, where the two great ranges unite together with the vast sandy deserts that encompass them on either side, form a confusion of the most forbidding elements of nature. The redeeming feature of Kern, is the noble river that heads in the mountains' fastnesses of Tulare County, and breaks through the titantic hills, down a deep, precipitous gorge, descending many thousand feet in a few miles, and rolling out upon the plains. As it reaches the valley it spreads into devious channels, making a large delta, which is called Kern Island. Some of the most productive farms in all California have been made in Kern Island within the past few years, where naught but grass and sage brush formerly grew. This has been accomplished by means of a liberal expenditure of capital in the construction of irrigating canals, which now ramify all parts of the island. An ample supply of water is furnished by Kern River, which has a drainage area of 2,382 square miles.

There is every indication of the existence of immense reservoirs of petroleum in the western portion of Kern County. The bituminous shales and sandstone formations are identical with those of the oil regions of Pennsylvania and Virginia, and considerable oil exudes from the surface in hundreds of places. At one point, petroleum has been collected from springs to the extent of several thousand barrels, which is of a heavier and less volatile character than the hydro-carbon of the East. Asphaltum

also covers thousands of acres of land. This oil belt runs through Los Angeles, Ventura and Santa Barbara counties, where it has been developed to some extent.

Comb Honey from L. W. Burr, Bakersfield.

Photograph of the "Loop," on the line of the S. P. R. R. Photographed by C. E. Watkins, San Francisco,

Three bales California Cotton, grown by Haggin & Carr, Bakersfield.

Bag of Cotton, not ginned, from Haggin & Carr.

Bale of Cotton Seed, from Haggin & Carr.

It is perhaps not generally known that a very large part of California is adapted to cotton growing. Such, however, is the fact. The establishment of a cotton mill at Oakland now makes a greater home demand for this product.

LAKE COUNTY.

Lake is one of the smaller counties of California, having an area of 624,000 acres of surface, and in shape it is nearly a perfec oval.

Lake County possesses certain peculiar resources and attractions which are sure, in time, to make it famous and prosperous. The general topography is rolling and hilly. Located in the Coast Range of mountains, Mount St. John, the highest point in the county, is situated at the extreme north end, some 4,000 feet above sea level. Clear Lake, which lies nearly in the middle of the county, forms one of its principal features; this lake is abou twenty-two miles in length, with an average of from three to six miles wide.

Lake County abounds with mineral springs, the waters of which possess great medical virtues.

The agricultural portions of the county embrace, in all, from 80,000 to 120,000 acres, comprising the very best land for wheat, barley, oats, potatoes and vegetables of all kinds. The valleys are well watered, and there is never any occasion to call uqon artificial means to insure good crops. Farms generally do not exceed 300 acres in extent. The hills that surround the valleys are composed of the best of soil for grapes. The mean temperature of the climate is higher, and there is less early and late frosts than in some other vineyard counties of California.

Fruits of all kinds, such as apples, pears, plums, apricots, peaches and prunes, do remarkably well. Sheep raising is one of the principal industries of the county, as the extensive range afforded by the mountains and foot-hills make it a profitable business.

The sauthern portion of the county is skirted by a semi-circle of rolling hills, of a metaphoric, cretaceous rock, rich in deposits of cinnibar. Several extensive quicksilver mines are now being worked. Two of these, the Sulphur Bank and Great

Western, are extremely rich. There are several other mines that are rich in this mineral. On the east side of Clear Lake is Borax Lake, where that mineral is found in its mud.

Soil sample, from ranch of J. T. McClintock, 4 miles northwest of Lakeport.
Soil sample, from orchard of Seth Dunham, Cobb Mountain.
Soil sample, vineyard and orchard of David Lobree, Middletown, elevation 1,000 feet, 16 miles from Calistoga.
Soil sample, orchard of E. B. Bole, 2 miles south of Kelseyville.
Soil sample, from orchard of Seth Dunham, Cobb Mountain.
Soil sample, ranch of Mrs. E. P. English, Cobb Mountain, 4 miles southwest of Middletown.

Volcanic ash, from Glass Mountain, 1,900 feet above sea level.
Obsidion (broken glass rock), from Glass Mountain, elevation 1,900 feet. (Acres of the mountain's benches and hillsides are covered with this substance.)

Obsidion, from Glass Mountain, elevation 1,900 feet.

Soil sample, orchard of G. Scudmore, 4 miles northwest of Lakeport.

Collection of Mineral Waters from Siegler Springs.
Soda.
Soda, Iron and Sulphur.
Iron.
Arsenic.
Magnesia.

Collection mineral waters from Allen Springs.
Yellow Egg Plum Tree. One year's growth from the bud (without irrigation), raised by B. Eagus, Scott Valley, 4 miles from Lakeport.

Petite Prune De Agen Tree, one year's growth from the bud, raised by B. Eagus, Scott Valley, 4 miles northwest of Lakeport.

Wheat, Bassett Ranch, 2½ miles south of Lakeport, 138 pounds seed, on one-quarter acre, yielded 30 sacks of 140 pounds each, 5,200 pounds. Sown November, 1883, harvested July, 1884.

Crab Apples.
Glora Munde Apples.
Bale of Hops, raised by G. Scudmore, 4 miles northwest of Lakeport.

LOS ANGELES COUNTY.

Los Angles County extends in an irregular line of about one hundred miles along the Pacific Coast. The San Fernando, San Gabriel, Cucamonga and San Bernardino mountain ranges run parallel with the coast at an average distance of thirty-five miles from the sea.

The immense region lying between these two great natural boundaries constitutes the finest body of agricultural, horticultural and mineral land, of equal extent on the continent. The larger portion of the county is a parallelogram, being about seventy miles from the north to the south, leaving a triangle in the southeast yortion, the northern line of which equals seventy miles, and the eastern forty miles. The county, consequently, contains about 5,600 square miles, or 3,600,000 acres (over two-thirds the area the State of Massachusetts.)

The principle rivers are the Santa Ana, San Gabriel and Los Angeles, which contain a sufficient supply of water to irrigate hundreds of thousands of acres of land.

Corn, barley. potatoes, wheat, rye, oats, beans, castor beans, hops, alfalfa, flax, hemp, and all kinds of vegetables thrive to a remarkable degree ; iss hams, bacon and dairy products equal the best in the world. Of fruits, the grape, pear, peach, plum, nectarine, cherry, apricot, fig, olive, orange, lemon, lime, walnut, and all the small fruits, nuts and berries usually found in the temperate zone, grow luxuriantly and yield largely. This is the great orange, lemon and lime section of the State. The raising of sheep, cattle and hogs enter largely into the farm husbandry of Los Angeles county. The bee product interest is also very important, especially along the foothills of the San Gabriel range of mountains. Wool, and manufacturing of woolen goods are important and rapidly growing industries. Petroleum, lead, iron, tin, gold, silver, lime, granite, gypsum, asphaltum, coal, borax and salt abound in this and neighboring counties.

Soil from Carter Vineyard, 1,500 feet elevation, Sierra Madra.
Soil from E. J. Baldwin's ranch, "Santa Anita," near San Gabriel.
Soil from A. K. McQuilling's place, Pasadena.
Soil from Old Mission Garden, San Gabriel.
Soil from the orchard of Dr. O. H. Conger, Pasadena, 9 miles northeast of Los Angeles.
Soil from ranch of James McFadden, near Santa Ana.
Soil from Lotsteitch Bros., 3 miles east of Orange. Formerly a cactus bed, now an orange orchard.
Soil from near Artesian well, 2¼ a miles northeast of Pomona
Soil, James McFadden's farm, 2½ miles south Santa Ana.
Soil, R. R. Darby, Santa Ana.
Soil from five miles east of Spadra.

EXHIBIT OF YUCCA DRACONIS, showing tree, cross and longitudinal cuts, fibre, in various stages of manufacture into paper stock. F. P. Howard & Co., Los Angeles.

These trees grow in groves over large areas of dry parts of Southern California, which cannot be used for agriculture without developing water. The trees, after being cut, reproduce from stools which give a more valuable quality of fibre than the original crop. They produce different qualities of fibre which are naturally separable into
1st. Fibre of length for spinning into yarns for mattings, etc.
2nd. For making stock for paper in lieu of rope papers for hardware.
3rd. For stock for wrappings and cartridges in place of Manilla stock.
4th. For printing and writing and account book papers.
5th. For thin tissue, foreign correspondence, and parchment papers of toughest and fairest quality.

The supply is inexhaustable for generations to come: with good facilities for cheap motive power and economical manufacturing production. It is proposed to erect paper mills near the sources of supply, and to extend operations until the manufactured finished products are found in every market. Reliable markets have been opened for immediate sale of raw fibres to any desired extent. Machinery has been perfected to produce the fibrous material into the most valuable states, which has been protected under several heads in the Patent Office. The cost of the fibres will not exceed that of straw in any part of the United States.

COLLECTION OF CANNED FRUITS.

Southern California Packing Company, Los Angeles,

Crawford Peaches.	Flemish Beauty Peach.
Lemon Cling Peach.	Smock Peach.
Extra Fancy Peach.	Green Gage Plums.

Damson Plums.
Extra Fancy Peach.
Apricots.
Bartlett Pears.
Imperial Plums.
Orange Quince.
Muscat Grapes.

COLLECTION OF CANNED FRUITS.

Pasadena Packing Company, Pasadena, Los Angeles County.

Lemon Cling Peaches.

Seed from Pepper tree, raised on Dr. Well's place, Santa Ana.

Cotton, J. W. Polts, Los Angeles.

Silk Cocoons, Mrs. E. Elmendorf, Santa Ana.

English Walnuts, J. W. Maxwell, Los Angeles.

Corn, C. A. Coffman, Ranchito.

English Walnuts, Seibart Montgomery, Downey.

Prunes, P. Potts, Justin City.

Lemon Cling Peaches, C. W. Bell, Pasadena.

Guava Jelly, M. Rosenbaum, Pasadena.

Seed of the Spanish Bayonet, Sierra Madra Mountains.

Native Walnuts, from hills west of Pomona.

Black Walnuts, raised at "El Molino."

Wheat from Antelope Valley, M. L. Wicks.

Barley from Antelope Valley, M. L. Wicks.

Japanese Persimmons, Los Angeles.

Smyria Fig, J. E. Haywood, Downey.

Vicar of Wakefield Pears, T. J. Kearns, Downey.

Japanese Persimmons, James Craig, Pasadena.

Apples, Santa Ana.

Peanuts, Los Angeles.

Acacia Seed, Prof. Wells, 1½ miles north of Santa Ana.

English Walnuts, J. Craigs, Pasadena.

Seed of Locust of Judea, J. G. B. Haynes, Downey.

Peanuts, F. A. Marshall, Santa Ana.

Navel Orange, raised near Duarte.

Tokay and Muscat Grape, J. Stewart, Downey.

Sorgum Corn, Dr. Shelton, Santa Ana.

Oats, Los Angeles.

Broon Corn, Downey

Wild Oats, Eli Shuler, Los Angeles.

Corn, eighteen feet tall, from C. A. Coffman, Ranchito.

Evergreen Millet, Los Angeles.

Specimens from fleeces of Angora Goats (Mohair) from kids less than a year old, J. E. Pleasants, Santa Ana.

Exhibit of Honey in the Comb, from W. W. Bliss, Duarte.

Improved Comb Foundation, manufactured by W. W. Bliss, Duarte.

LARGE EXHIBIT OF COMB HONEY, Extracted Honey and Beeswax, J. E. Pleasants, Santa Ana.

Collection of Bee Plants, J. E. Pleasants, Santa Ana.
Honey Extractor, J. E. Pleasants, Santa Ana.

Specimens of Limbs of Trees in which wood-peckers have deposited acorns, from which to derive their winter food in the form of worms, which hatch out in the acorns, J. E. Pleasants, Santa Ana.

Pampas Plumes from O. H. Bliss, Los Angeles.
Pampas Plumes from J. M. Steward, Los Angeles.

Collection of Photographs of Los Angeles and Vicinety, Staunton, Los Angeles.

Photographs of Los Angeles by Ellis and Son.
Red Wood Plank, six feet three inches wide, from W. H. Perry, Mill and Lumber Company, Los Angeles.
Collection of Raisins from McPherson Bros., Orange, W. T. Coleman & Co., Sole Agents, San Francisco.
Loose Muscatels, London Layers.

Collection of Raisins, D. Hews, Tustin City.
Loose Muscatels.

Grape Vine and Root, grown on Boyle Height's, Los Angeles city, without irrigation, planted from the cutling and was in the ground only eighteen months, has shrunken somewhat and has been broken, was thirteen feet when first taken up, contributed by J. D. Lynch of Los Angeles, collected by C. W. Bill.

Collection of Brandies and Wines from Stern and Rose, San Gabriel.
Sunny Slope Brandy.
Angelica Wine,
Trousseau Wine.

Angelica Wine from H. Cooper, Santa Ana.

Collection of Maps, published in 1704, showing Palestine, Italy, and North America, loaned by Frederick Krempel, Santa Ana.
Section of Eucalyptus (Blue Gum) Tree.
Antimony Ore.

MARIPOSA COUNTY

Is triangular in shape. Ii has an area of 988,000 acres, the greater portion of which is mountainous and hilly, and is remarkable as containg YoSemite Valley. Its eastern portion is above the snow line, and its western border extends into the great San Joaquin Valley. It is watered by the Merced River and its tributaries, and by the Mariposa. Both rivers rise in the county; the first, by the time it joins the San Joaquin, is quite an important stream, flowing over precipices and through deep canons, until it reaches the western boundary of the county. Mariposa is one of the best timbered counties, along the western slope of the Sierras, which consists of excellent saw timber, such as several species of pine, spruce, fir and *Sequoias*, or big tree timber.

This is, strictly speaking, a mining region—principally gold. There are probably more gold-bearing quartz veins than are to be found in any other territory of similar size in the State. A large portion of it is not yet prospected. Twenty-six quartz mills are within the limits of the county. The placer mines have been fabulously rich in coarse gold, and the precious metals taken trom the Mariposa mines would figure up in the millions.

The soil in the valley portion of the county is usually fertile, and adapted to limited farming—especially where water can be had for irrigation—principally fruit, vegetables and grasses. Fruit and grapes raised here, in the small valleys in mountains, have a peculiarly fine flavor. Sheep-raising is quite an industry in this county.

Model of the Yo Semite Valley, moulded by E.E. Howell from Sarveys, made by Clarence King and J. T. Gardner. Issued by Ward and Howell, Rochester, N. Y.
This model in minature represents all the grand and imposing features of this wonderful valley.

"The Yosemite Valley is a narrow gorge, about six miles long and varies from half a mile to a mile in width. The floor of the Valley is an almost level stretch of meadow, 4,060 feet above the sea, and sunk nearly a mile below the summits of the surrounding mountains"

COLLECTION OF PHOTOGRAPHS of Yo Semite Scenery from the studio of I. W. Taber, San Francisco.

COLLECTION OF PHOTOGRAPHS from the gallery of Geo. Fisk, who has long resided in the Yo Semite Valley and with the inspiration born of a love for Nature has preserved, for the sight of others, the features of his idol in sunshine, cloud and storm, in spring-time's garniture of flowers and in winter's habilments of snow.

COLLECTION OF YO SEMITE VIEWS, made by C. E. Watkins, San Francisco.

Views of Yo Semite Scenery, made by J. J. Reiley.

Specimens of the various varieties of granite composing the walls of the Yo Semite Valley, also granite showing the polish of glaciers from near the head of the Nevada Fall.

Mohair Fleeces, from Martin Kerby, (76) Angora Downs.

MERCED COUNTY,

Merced County reaches the summit of the Coast Range, on the west and the base of the Sierras, on the east, and has an area of 1,155,336 acres, embracing the whole width of the San Joaquin Valley. Fully three-fourths of the land is susceptible of cultivation, the remainder being suitable only for grazing. The geological formation of the county is such that flowing water from Artesian wells may be obtained at a depth from 200 to 300 feet. The San Joaquin River flows through the county in a northerly direction, dividing into two nearly equal parts. Along the Merced River, throughout the county, elevated a few feet above high water, are the bottoms of the Merced, composing the richest alluvial soil, and producing the finest crops of grain, cotton, corn, vegetables, etc. In places, at high water, the bottoms are overflowed, but only immediately along the river, and not for a sufficient time to interfere with their cultivation. Grapes of every variety grow as well along the eastern portion of the county as in any part of the State.

On many farms are fine, spreading oaks, growing chiefly along the banks of streams. In many places, stone is found convenient for building, and material for brickmaking abounds everywhere. In this county, farming is carried on with all kinds of labor-saving machinery; gang plows are in universal use, the soil being broken from two to four inches deep. Combined headers and threshers are used to havest the grain.

Soil sample, from near Arena.
Soil sample, from H. C. Hoffman's place, 1¾ miles north of Merced.
Soil sample, from ranch of H. C. Hoffman, Black Rascal Creek, 3 miles north-east of Merced.
Seedling Cling Peach, (preserved in chemical solution). Raised by M. D. Atwater, 5 miles north of Merced.
Pomegranates, (preserved in chemical solution). Raised by M. D. Atwater, 5 miles north of Merced.
Cotton, raised by Eugene Upton, Merced River, 16 miles north of Merced City.

MONTEREY COUNTY.

This County lies between parallels 35.45 and 37 north. It has an area of 2,304,000 acres. The northern line is 90 miles south from San Francisco. There is a great diversity of soil, climate and production, owing to the peculiar manner in which the county is divided by mountains, hills and valleys. It is separated, naturally, into four sections, viz: The Santa Lucia Range of mountains, running parallel with the ocean, in the western portion, following the coast line. The Gabilan Range, in the eastern portion, extending from Monterey Bay on the north into San Louis Obispo County on the south; (these mountains are in most places very rough and steep, especially in the central and western portion of the range; so much so that some parts of the country have not been explored; they attain a height of 5000 feet). Between these two ranges lies the great Salinas Valley, which opens upon Monterey-Bay on the north, from which it extends in a southeastern direction for seventy-five miles, and from six to fifteen miles wide, and contains 640,000 acres.

The lands in this valley may be divided in thee classes: Rich bottom, good for the growth of anything; table lands, good for wheat and barley; and uplands which lie close along the base of the mountains, in the lower part of the canons and among the lower hills, which are good for general farming, stock raising and fruit culture. Fully one-third of the country is mountain waste and not susceptible of cultivation, and a great portion too rough for grazing.

Monterey is well supplied with railroads. The Southern Pacific enters it on the north, and runs through the great Salinas Valley from Pajaro to Soledad, a distance of 144 miles, with a branch from Castroville (which is only ten miles south of Pajaro) to Monterey, sixteen miles.

There are sixteen points in the country where the farmer can ship produce, either by rail or water.

Two large frames of Photographic Views of Hotel del Monte and Surrounndings, from the gallery of C. E. Watkins. Contribnted by A. C. Bassett, San Francisco. Mr. Watkins is a pioneer photographer of California, whose work is known throughout the country.

Views of Del Monte and surrounndings, photographed by Geo. Fiske and exhibited by Sanborn, Vail & Co., San Francisco.

Views of Hotel del Monte, by I. W. Taber, San Francisco. The Hotel del Monte is acknowledged to be the best conducted and finest seaside hotel in America.

Map of Monterey Bay.

Guide Map to Monterey and Vicinity.

Ear Bones, from Whale caught in Monterey Bay (measnred 90 feet). Barnacles from same Whale. Benjamin Barber, Monterey.

Whalebone from Whale caught in Monterey Bay.

Collection of Shells from Monterey Bay.

Green Peas, raised in Salinas Valley. Contributed by J. H. Thomas, San Francisco.

White Beans, raised in Monterey County. Contributed by J. H. Thomas, San Francisco.

Monster Potatoes, (largest in the exhibition), Pajaro Valley. Contributed by A. C. Bassett, San Francisco.

NAPA COUNTY.

Napa County is justly famous for her productive soil, fine, healthful climate, which is pleasant the year round—the summers being cool and agreeable, and the winters mild and salubrious. It lies about fifty miles northwest from San Francisco, and is some fifty miles in length, and abour twenty-six in width, and has an area of 450,000 acres. The California Pacific and Northern Railways enter the county on the extreme southern line *via* Vallejo. This road runs through the central portion of the county to the most western corner, terminating at Calistoga. The topography of this county is a succession of low mountain ranges and valleys, with a general northwestern and southwestern direction. The pricipal valley is known as Napa Valley, extending through the entire legth of the county. This fine fertile valley is same fifty miles in length, and from two to eight miles in width; it embraces about 56,000 acres, which is nearly all of the very choicest grape and fruit land in the world. Originally, this valley was dotted with large spreading oaks, having the appearance of a grand park. Large numbers of these trees are allowed to remain, together with thousands of eucalyptus, walnut, locust, and other shade and ornamental trees planted, giving the country a most beautiful appearance. The soil of Napa Valley is usually a dark gravelly loam, very fertile. The lands in this valley are all cut up into small tracts, ranging from five, ten, twenty, forty, one hundred, and two hundred acres, and occasionally, five hundred acres. The hills are timbered with oak, madrone. pine, elder, and various kinds of mountain timber.

Napa County is justly famous for the numerous mineral springs that are located within her borders. The Hot Sulphur Springs at Calistoga, are a great curiosity. There are twenty-two boiling springs, and technically speaking, no two are the same.

Napa County has numerous fresh water springs, and it is considered one of the best watered counties in the State. Beautiful living streams are to be seen all over the county. Minerals of various kinds abound in Napa County. The only mining car-

ried on to any great extent is for quicksilver. Numerous other minerals, such as feldspar, serpentine, shale, sulphur, soda, ammonia, coal, limestone, gypsum, tufa and scoria are found. Some of the geological formations of Napa are among the wonders of the world, viz: the petrified forest, near Calistoga, the lava beds, on Mount St. Helena, and the tertarian sandstone.

The great product of this county, and almost the only increasing one, is wine and brandy. This is one of the wealthiest countries in the State, considering the number of its inhabiiants.

Eureka Cart, H. Hortop & Co., Rutherford Agricultural Works, Rutherford.

This cart combines easy draft, simplicity, neatness, strength, and style of construction, with no multiplicity of springs or other complicated parts to get out of order.

Hortop's Vineyard and Orchard Plow, with Reversible Standard, manufactured by the Rutherford Agricultural Works, H. Hortop & Co., proprietors, Rutherford.

The standard is reversible to plow either to or from the vines. The handle can be adjusted to either side for plowing vines which have high stakes.

Napa patent leather, B. F. Sawyer & Co., Napa, colored, smoked, and white buckskin, colored, smoked, white and black kid.

This leather is of superior quality and clearly shows the extent of this important industry in California.

Quince from Mr. Simonton, Napa.

Honey, J. D. Enas, Napa.

Wild oats, bundle, contributed by Lee Owen, 35 miles north of Napa City. The ground on which these oats grew has never been cultivated.

Collection of Wines from Wm. Crabb, Oakville.

White Wine.
White Wine, 1884.
Sauvignon Wine.
Port Wine.
Grape Brandy.
Dry Sultand Wine.

Zinfandel Wine from J. W. Simonton, Talcoa Vineyard, Napa.

Chasselas Rose Wine from George Husmann, Talcoa Vineyard, Napa.

Sherry Wines from "Lisbon Vineyard," J. Mathews, Napa.

Cortes XXX Sherry, Oakville.

COLLECTION OF WINES from Napa Valley Wine Company, St. Helena.

Angelica.
Sweet Tokay.
Port.
White Mountain.
Zinfandel, 1882.
Zinfandel, 1880.
Reisling, 1878.
Hock.
Malaga.
Gutidel.
Burger, 1883.
Brandy, 1880.
Brandy, 1881.

NEVADA COUNTY

Is entirely in the foot-hills and mountains of the Sierra Nevadas. It has an area of 640,000 acres; 250,000 are foot-hill lands, and well adapted for grain or fruit raising. It is well watered by streams and spings. It has vast timber regions, and has an abundance of stone for building, and clay for brick, and limestone for making lime. There are large areas for grazing.

Lode mining is in its infancy, and will, in the near future, receive a wonderful developement. Every pound of produce from its soil will then find a market at home. Its means of transportation are good, being connected by rail with the Central Pacific system, All the foot-hill land of this country is adapted to all the temperate and semi-tropic zone productions.

Silk Spinning Apparatus,—Ccocoining Shelf, and Ladder, made by Felix Gillet, Nevada City,
Sericultural Chart, published by Felix Gillet, Nevada City.
Collection of Mulberry Leaves, Felix Gillet, Nevada City,
Barren Hill Zinfandel, 1881, Felix Gillet, Nevada City.
Barren Hill Carmenet-Pińeau, 1881, Felix Gillet, Nevada City.
California Late Prœparturiens Walnuts, Felix Gillet, Nevada City.
Red Aveline Filberts, raised by Felix Gillet, Nevada City.
Piedmont Filberts, raised by Felix Gillet, Nevada City.
Bysance Filberts raised by Felix Gillet, Nevada City.
Catawba Wine, Thos. N. Paine, Grass Valley.
Flaning Tokay Grape in form of Tomato, Thos. N. Paine, Grass Valley.
Wheat, S W. Peper, Grass Valley.
Macaroni Wheat, S. W. Peper, Grass Valley.
Double Plums, Thos. Patterson, Howard Hill.
Black Oats, C. R. Hill, Nevada City.
Wheat, I. M. Hales. Grass Valley.
Chili Clover, (Alfalfa) (first crop.) I. M. Hales, near Grass Valley.
Chili Clover, (third crop). I. M. Hales, near Grass Valley.
Timothy. I. M. Hales, near Grass Valley.
Red Top Grass. I. M. Hales, near Grass Valley.
English Red Clover, I. M. Hales, near Grass Valley.

Native Grass. I. M. Hales, near Grass Valley.
Wild Oats. I. M. Hales, near Grass Valley.
White Chili Wheat. Raised by I. M. Hales, near Grass Valley.
Club Wheat. Raised by I M. Hales, near Grass Valley.
Soil from I. M. Hales' place, Howard Hill 1 mile from Grass Valley.
Indian Mortar for grinding Acorns, found 40 feet under ground, W. Loutzenheiser, Grass Valley.
Photographs of Nevada City, from the studio of J. Swart, Nevada City.
Photograph of Nevada City, California, showing the city in 1853 and 1880, also a number of views of public buildings, mines and mills in the vicinity, loaned by Jno. T. Morgan, Nevada City.
Lithograph of Nevada City, contributed by Thomas Walrath & Hicks, Nevada City.
Collection of Photographs of Grass Valley and Vicinity, from Gallery of W. A. Clinch, Grass Valley.
Section of Fir Tree, (Picea Amabilis). The wood in this tree grows in such a way as to make the tree nearly square.
Collection of Silver Ores with hanging and foot wall, Merrifield Mining Company, Nevada City, D. T. Hughes, Supt.
Collection of Silver Ores, and samples showing the process in extracting the metal, Province Mine, Nevada City,
Collection of Copper Ores, showing products of workings. San Francisco Copper Mine, Spenceville.

PLACER COUNTY.

Placer County has an area of 520,000 acres, 140,00 acres of which belong to the basin or valley region. The 140,000 acres of valley land is well watered with clear mountain streams. Along the foot-hills there is a continuous system of springs. Well water can be had at moderate depths. The mountains adjoining these foot-hills furnish abundance of timber for lumber and fuel. The American and Bear Rivers, and other tributaries furnish an abundance of water for all purposes. The most of this valley land is under the plow. It is devoted to the cultivation of all the cereals, hops, vines, fruits and vegetables. The yield is large, and the quality is excellent. The means of transportation are good. The Central Pacific runs the whole length of the County, east and west. The California and Oregon Railway crosses the western portion of the county from north to south. The Nevada Valley Railroad runs from Colfax, in Placer County, north into Nevada County. Building material in Placer County is abundant and cheap. Schools are established in all parts of the county and are of a high order. Auburn, the county seat, has an active trade and is a model town. It is a noted resort for those seeking mountain air and mountain scenery.

Placer County is the home of all the fruits of the temperate and semi-tropical zones. Apples, pears, peaches, plums, cherries and small fruits grow in the same fields with the orange, lemon, fig and pomegranate tree. The delicate French and German wine and table grapes, and the Spanish raisin grapes are successfully grown in numerous vineyards. The foot-hills of Placer County embrace 300,000 acres. The soil is a red loam, formed by the disintegration of the granite and slate formations. It is rich in lime, magnesia, soda, potash, phosphorus and iron. These foot-hills are especially adapted to the growth of all the temperate and tropical zone productions. Oranges, that weigh three-fourths of a pound, lemons weighing half a pound, figs,

raisin grapes, French and German table and wine grapes, grow to perfection in amazing quantities.

Collection of Views of Colfax and Vicinity, Perkins, Colfax.
Photograph of one vine Golden Chaselas Grape, showing 56 pounds of grapes on one vine, raised by J. B. Whitcomb, Colfax.
Photograph of Strawberry, 11 inches in circumference, raised by Geo. D. Kellogg, Newcastle.
Photograph of Geo. Geisendorfer's Vineyard, near Calfax.
Photograph of a Load of 5 Sugar Pine Logs, measuring 14,958 feet, Truckee.
Photograph of Logging Train, loaded with Sugar Pine Logs, Towle Bros., Alta.

Soil sample from Vineyard of C. M. Silva & Co., Newcastle.
Soil from ranch of J. W. Mitchell, Newcastle.
Soil from Vineyard of J. B. Whitcomb, Colfax.
Sub-soil from ranch of Hayford & Moore, Colfax, (at a depth of from 1 to 2 feet.)

Soil from Cape Horn Vineyard, Colfax.
Sub-soil from Cape Horn Vineyard, Colfax.
Soil from the place of Chas. A. Beal, Colfax. Sample of Evergreen Millet was grown on this soil.

Soil sample, 1 mile east of Roseville.
Soil Sample Loomis.
Soil, H. Barrett's place, Dota's Ravine, 4½ miles northeast of Lincoln.

Club Wheat, James Duff, 4½ miles northwest of Sheridan.
Australian Wheat, Frank Dalbey, 3½ miles southeast of Sheridan.

Propo Wheat, (Winter sown), raised by J. W. Kaseberg, 1 mile north of Roseville.

Gennesee Wheat, (Winter sown), raised by J. D. Gould 6 miles east of Roseville, yield 23 bushels per acre.

Gennesee Wheat, raised by G. K. Kirby, 1 mile east of Roseville.

Alfillarilla or Filaree, (Erodium moschatum,) (Seed) Forage plant, also bee plant, Roseville.

Alfalfa or Lucera, (sheaf), third crop without irrigation cut August 10th, 1884, Newcastle.

Threshed Wild Oats, Roseville.
Wild Oats, (Volunteer Growth, sheaf), grown near Roseville.
Collection of grasses from Roseville.

Specimen showing root growth of Evergreen Millet in one year, from one joint of a root planted. Chas. A. Beal, Colfax.

Cutting of Rose Peru Grape Vine, grown at Loomis. Ground cleared December, 1883, of Live Oak, Chaparall and Buckeye. Ploughed once from 10 to 12 inches deep, in Febrnary. Harrowed and cuttings set out last week of April, about 12 inches deep. Cultivated once, harrowed twice. In September following the soil was still mellow and moist about two inches below the surface. Cuttings set out shortly after pruning, eight feet apart. About 90 per cent grew The ground was never irrigated nor manured. Grown by J. J. Morrison.

Peach Tree budded on Apricot. Grown at Loomis, two week's growth without irrigation, new ground. Plowed once about 10 inches deep. Harrowed twice, cultivated once. (Grown in soil, sample of which is shown). Planted April, 1884. Taken up September 1, 1884. Exhibited by E. W. Maslin.

Cutting Rose Peru Grape Vine. Pruned from a vine in L. Bannow's vineyard, two miles northwest of Loomis, Placer County. Set out April 29. About 12 inches in ground, and taken up in September. No irrigation, no manure, nor cultivation since June

Sample of Grape Vine Growth. The stalk of this Vine is a seedling of the wild Cala vine [Vitis Californica], planted when $\frac{1}{8}$ of an inch in diameter, March 31, 1882. April 29, 1884 it was cut down 2 inches below the surface, and grafted with Scion of Zinfandel $\frac{1}{4}$ inch in diameter. Vineyard at Loomis, Placer county; elevation 402 feet; soil Granitic, 4 feet deep; land easily cleared for $15 or $20 per acre; does not wash. Rainfall 25 inches; no snow or late frosts; vine grown without irrigation, by E. W. Maslin.

Rose De Peru Vine. one season's growth to October 10, 1884, W. J. Wilson & Son, New Castle.

Kittating Blackberry Vine, growth in one season to August, 14 feet, S. F. Woodworth, New Castle.

TYPICAL COLLECTION OF FRUITS PRESERVED IN SOLUTION.

Yellow Egg Plum, Wilson & Son, New Castle.
German Prune, Wilson & Son, New Castle.
Peaches, Wilson & Son, New Castle.
Third crop [in one season], Black Figs, Wilson & Son, New Castle.
Fourth crop [in one season], Black Figs, Wilson & Son, New Castle.
Cling Peaches, Wilson & Son, New Castle.
White Heath Cling Peach, Wilson & Son, New Castle.
Cornichorn Grape, Wilson & Son, New Castle.

Late Cling Peach, Wilson & Son, New Castle.
Pond's Seedling Plum, Wilson & Son. New Caatle.
Double Pond's Seedling Plum, Wilson & Son, New Castle.
Cling Peach, S. F. Woodworth, New Castle.
Pond's Seedling Plum, S. F. Woodworth, New Castle.
Nectarines, S. F. Woodworth, New Castle.
Crabb Apples, S F. Woodworth, New Castle.
Pears, S. F. Woodworth, New Castle.
Late Cling Peach, S F. Woodworth, New Castle.
California Golden Drop Plum, S. F. Woodworth, New Castle.
Gros Prune, S. F. Woodworth, New Castle.
Red Egg Plum, S. F. Woodworth, New Castle.
Petite Prune, S. F. Woodworth, New Castle,
Cling Peach, Ira F. White, Penryn.
Bune Hardy Pear, Ira F. White, Penryn.
Flaming Tokay Grapes, J. B. Whitcomb, Colfax.
White Muscat Grapes, J. B. Whitcomb, Colfax.
Cling Peach, J. Holder, Penryn.
Quince, G. D. Kellogg, Penryn.
Prunes. J. F. White, Penryn.
Black Hamburg Grape, Ira White, Penryn.
Billins Late October Peach, W. R. Strong & Co., Penryn.
Japanese Persimmons, Hall & Coheren, Penryn.
Lemon Cling Peaches, C. M. Silva & Son, New Castle.
Orange Cling Peaches, C. M. Silva & Son, New Castle.
Muscat Grapes, C. M. Silva & Son, New Castle.
Hungarian Prunes, C. M. Silva, New Castle.
California Figs, C. M. Silva, New Castle.
German Prunes, C. M. Silva, New Castle.
Oranges, J. B. Frey, New Castle.
Hemp, 10 feet high one season, C. B. Vallentine, Roseville.

EXHIBIT FROM ALTA PULP MILL.

Towle Bros., Alta.
- Fir, [Sample No. 1], showing wood as split from tree.
- Fir, [Sample No. 2], bark removed.
- Fir, [Sample No. 3], chips made in removing bark.
- Fir, [Sample No. 4], stained ends rejected.
- Fir, [Sample No. 5], pulp in solution.
- Fir, [Sample No. 6], showing 1 and 2 layers of the fibres in the sheet.
- Fir, [Sample No. 7], pulp prepared for shipment from the mill.

Series of Samples of the Quaking Aspen, which makes the whitest pulp, similar to the foregoing one of fir.
Cross Section, Sugar Pine Log, Towle Bros., Alta.
Cross Section, Yellow Pine Log, Towle Bros., Alta.
Cross Section, White Fir Log, Towle Bros., Alta.
Cross Section, Cedar Log, Towle Bros., Alta,

Specimens of Coal and Welding Quartz, from the Coal Mine at Lincoln.

Architectural Terra Cotta and Egyptian Garden Vase, Gladding, McBean & Co., Lincoln.

Specimens of Limestone, Excelsior Lime Works, near Clipper Gap.

Collection of Petrified Woods from Dutch Flat.

SACRAMENTO COUNTY.

This county is situated in the southern part of the Sacramento basin. It has an area of 640,000 acres, of which 150,000 are inclosed in farms. The balance is used for pasturage. In 1884, 2,000,000 bushels of wheat, 600,000 bushels of Barley and a large crop of oats, rye, corn and hay were produced. The product of hops, vegetables and fruit was among the largest in the State. The hop product was 2,000,000 pounds. This county has 10,000 horses, 100,000 sheep, 25,000 horned cattle and 15,000 swine. There are 10,000 acres planted in vines, and as much more in orchards. Oranges, lemons, olives and figs grow in all parts of the county. Sacramento City is the county seat of the county, and the Capital of the State. It is the second city in population in the State, and the second in trade on the Pacific Coast. It is the railroad center for the middle and northern part of the State. It is a point from which railways radiate like the spokes of a wheel. There is not an hour in the day but what trains leave its great depot for all points north, south, east and west.

Sacramento is fast becoming a great manufacturing center. Its mills, forges, factories, canneries and wineries give employment to 2.500 mechanics, and these interests are rapidly increasing in volume. There is now in this county room for thousands of fruit and other small farmers. There are opportunities for men of capital and energy in every branch of business.

The Shovel that cast the first earth in the construction of the Central Pacific R. R., used by Hon. Leland Stanford, President of the road in the inaugural ceremonies Jan. 8th, 1863. Loaned by Albert Gallatin, Esq., Sacramento.

Photograph of the Hospital of the C. P. R. R., at Sacramento and reports of the same. Loaned by J. A. Watson, Sacramento.

Photographs and Blue Prints of Snow Plow and Ice Flange, used on the Mountain portions of the C. P. R. R. Loaned by Benj. Welch, Sacramento.

Photographs of Snow Sheds and Deep Snows on the high ridges of the Sierra Nevada Mountains along the line of the C. P. R. R., near Summit Station, (7,000 feet above sea level.) From the studio of J. A. Todd, Sacramento.

Blue Print of C. P. 12-wheel Locomotive No. 229, built in 1882, at the Central Pacific Railroad's Machine Shops at Sacramento. At that time this was the largest locomotive ever constructed. Since then, fifty of these monsters have been built from the original designs of A. J. Stevens, Master Mechanic of the S. P. Company. The following items will give an idea of the size of these locomotives: Weight of tender in running order 63,000 lbs, capacity for water 3,000 gallons; and 6 tons of coal; driving base 15 ft. 9 in: total wheel base 53 ft. 1¾ inches; weight of engine in running order, 123,000 lbs; weight on drivers, 106,050 lbs.; maximum pull of draw bar 22,500 lbs on 105 feet grade and 8 degree curve; handling 19 loaded cars, 388½ tons on 105 feet grade and 8 degree curve; diameter of cylinder 19 inches; stroke 30 inches; diameter of driving wheels, 4 ft. 7 inches.

Blue Print of "El Gobernador" the giant 14-wheel locomotive of the Southern Pacific Co., being the largest ever constructed and built at the shops of the S. P. Co. at Sacramento, Cal., from designs and under the direction of A. J. Stevens, the Master Mechanic of the company. The following items impart a faint idea of the gigantic proportions of this monster piece of machinery: Total weight of engine 73 tons; weight on drivers, 64 tons; Diameter of drivers, 4 ft 9 inches; Weight of tender (light,) 50 650 lbs.; total length of engine and tender, 65 ft. 5 in.; driving wheel base 19 ft. 7 in.; rigid wheel base 14 ft. 7 in.; water capacity of tender 3,600 gallons; diameter of cylinder 21 inches; stroke 36 inches.

Photograph of the Car "Stanford"—the private car of Hon. Leland Stanford, U. S. Senator from California, and President of the Southern Pacific Co., built at the car shops of the Southern Pacific Co. at Sacramento, Cal; loaned by Benj. Welch, master car builder.

Collection of Photographs of "Floral Festival" given in honor of Mrs. E. B. Crocker, in the pavilion of the State Agricultural Society at Sacramento, the state capital, May 6, 1885. Photographs taken by Payne, Kerlin and other Sacramento photographers.

These few pictures represent woman's noblest work; not that which can be exhibited in show cases and which

pleases the eye by combinations of color, but that which touches the heart and makes men better.

Margaret E. Crocker, relict of Judge E. B. Crocker, has bestowed her charity without ostentation. Like the falling of the quiet dew that nourishes and bows not down the most delicate floweret her beneficence aided all needy ones Her public spirit has led Mrs. Crocker to give to the city of Sacramento a large conservatory, an old ladies' home, land for a cemetery, and her Art gallery and magnificent collection of paintings valued at half a million of dollars. The citizens of Sacramento and people of California to show their love and admiration of Mrs. Crocker tendered her a floral festival in Sacramento, May 6, 1885. The pavilion in which this took place is a building 400 feet long and same width, in form of Greek cross. The entire ground floor was occupied with floral designs from all parts of California, while the building was decked with flowers and evergreens. The school children took an active part in the exercises and thousands of people gathered to testify their love and appreciation of a noble woman whose name is indelibly written on the hearts of her countrymen and countrywomen.

Telegraphic [cipher] Code to insure privacy and security in the transmission of telegrams, by Frank Miller, Sacramento.

Album of Grape and Vine Leaves [80 varities] from Natoma Mining and Water Co., Folsom.

Soil, sample from Antelope Station, C. P. R. R.

Soil, sample from Natoma Vineyard, Folsom.

Soil, sample from the Vineyard of the Natoma Water and Mining Co., Folsom; Slickens deposited 8 feet deep, Black Farara Grapes grown on this soil.

White Chili Wheat, raised by N. H. Lauridson, Routiers.

White Australian Wheat, raised by J. T. O'Toole, 16 miles east of Sacramento City.

Barley, raised by C. W. Detering, 10 miles east of Brighton.

White Chili Wheat, raised by C. W. Detering, 10 miles east of Brighton.

Tuscan Wheat, raised by Chas. Lee, Florin; yield 29 bushels per acre.

White Australian Wheat, raised by J. Reith, Franklin Township.

Royal Australian Wheat, raised by J. Reith, Franklin Township.

White Australian Wheat, raised by Myran Smith, Franklin Township.

White Australian Wheat (Summer fallow), raised by G. W. Hack, Franklin Township.
Propo Wheat, raised by G. W. Hack, Franklin Township.
Buckwheat, Sacramento county.
White Wild Oats, raised by A. D. Miller, 1¼ miles southwest of Walsh Station.
Wheat, [sheaf] raised by O. S Freeman, Elk Grove.
Chili Wheat, [sheaf] raised by Frank Bean.
Barley, [sheaf] raised by Arthur Wells, Franklin Township.
White Australian Wheat, [sheaf] raised by W. Curtis, Sutter Township.
White Australian Wheat, [sheaf] raised by G. W. Hack, Franklin Township.
White Australian Wheat, [sheaf] raised by J. Reith, Franklin Township.
Wild Oats, [sheaf] H. M. Reith, Franklin Township.
Alfalfa in Seed.
Tilli Wheat, (sheaf) raised by S. A. Lauridson, 8 miles east of Brighton.
White Australian Wheat, raised by J. T. Toole, 16 miles northeast of Sacramento.
Pop Corn, (stalks), raised by A. D. Miller, Walsh Station.
Corn, (stalks), raised by R. Brown, near Brighton.
Egyptian Corn, (1 hill, bundle), raised at Front and W. streets, Sacramento City, planted June 30, pulled up September 8, 11 feet 3 inches high.
White Egyptian Corn, (bundle), raised near Brighton
Broom Corn, (bundle, raiser unknown).
Bayo Beans, raised on Sacramento River, contributed by J. H. Thomas, S. F.
Pea Beans, raised on Sacramento River, by J. H. Thomas.
Lima Beans, raised on Sacramento River, by J. H. Thomas.
Lima Beans, raised by F. Gabrielle, 3 miles east of Sacramento.
Castor Oil Beans, raised by F. Gabrielle, 3 miles east of Sacramento.
Japanese Chestnuts, raised by Isaac Lee, Florin.
Black Fara Grape Vine, one year's growth off vine 20 months from the cutting grown on a deposit of mining slickens from 6 to 8 feet deep, raised by the Natoma Water and Mining Co., Folsom.
Licorice Root, raised by Isaac Lee, (Pioneer Licorice Grower of America), Florin. The first imported into the State in 1879.
Licorice Root, raised by J. Rutter. Florin.
Silk Cocoons, raised by Mrs. Rutter, Florin.
Gum Arabic and Acacia Leaves, George Nesche, 3½ miles southeast of Florin.

TYPICAL COLLECTION OF FRUITS PRESERVED IN SOLUTION.

Muscat Grapes, G. H. Kerr, Elk Grove.
Rose Pear, G. H. Kerr, Elk Grove.
Flaming Tokay Grape G. H. Kerr, Elk Grove.
Blue Tombandy Grape, J. Rutter, Florin.
Flaming Tokay Grape, J. Rutter, Florin.
Japanese Persimmon, Isaac Lee, Florin.
Rose de Peru Grapes, G. H. Kerr, Elk Grove.
Coes Golden Drop Plum raised near Brighton.

1 Bale of Hops, from Daniel Flint, Sacramento.
1 Bale of Hops, from A. Menke, Routers.
1 Bale of Hops, from Gerber Bros., Sacramento.
1 Bale of Hops, from Carle & Croly, Sacramento.
1 Bale of Hops, from H. Gerber & Co., Elk Grove.

Wool, Thomas McConnell, Elk Grove.
Wool.

2 Small Bales of Hay, baled by Miller's Lighting Press, manufactured by J. F. Hill, Sacramento.
Sample of Peanut Vines, W. R. Strong & Co., Sacramento.

EXHIBIT FROM THE VINEYARD PROPRIETORS COMPANY, SACRAMENTO.

California Brandy, Vintage of 1883.
California Brandy, Vintage of 1884.

Muscat Raisins, G. H. Kerr, Elk Grove.
Seedless Sultana Raisins, J. Rutter, Florin.
Loose Muscatel Raisins, J. Rutter, Florin.
Almonds in the shuck, D. L. Williamson, 15 miles east of Sacramento.
Almonds, D. L. Williamson, 15 miles east of Sacramento.
Almonds, L. R. Davis, 4 miles east of Sacramento.
Almonds, V. Harvey Galt.
English Walnuts, J. Rutter, Florin.
English, C. H. Cummings, Sacramento.
Sun Dried Morris White Peaches, J. Cornell, Routiers.
Sun Dried Crawford Peaches, J. Cornell, Routiers.
Sun Dried Yellow Egg Plums, J. Cornell, Routiers.
Prunes, D. Gage, Elk Grove.
Dried Washington Plums, Natoma Mining and Water Co., Folsom.
Dried Gros Prunes, Natoma Mining and Water Co., Folsom.
Dried Golden Drop Plums, Natoma Mining and Water Co., Folsom.
Dried Magnum Bonum Plums, Natoma Mining and Water Co., Folsom.

Dried French Prunes, Natoma Mining and Water Co., Folsom.
Dried Prunes, from J. Rutier, Rutiers Station.
Golden Drop Plums, J. Cornett, Routiers.
Duane Purple Plums, J. Cornett, Routiers.

COLLECTION OF DRIED FRUITS FROM SACRAMENTO.

Bartlett Pears.
Columbia Plums.
Late Crawford Peaches.
Silver Prunes.
Wards late Free Stone Peach.
Raspberries and Egg Plums.
Blackberries.
Muscat Raisins.
Seedless Sultana Raisins.
Father Zeyers Raisins.
Apples.
Nectarines.
Apricots.
Strawberries.
Surgrar Figs.
Cherries.

Door made of Sugar Pine, with redwood panels, made by the Sacramento Planing Mills, [Hartwell, Hotchkiss & Stalker], Sacramento.

Exhibit of different styles of Fruit Boxes from Pioneer Box Factory, Sacramento.

2 Post Augers [6 and 8 inches], E. G. Dudley, Galt.

Exhibit of Silica Stoneware; Fire and Porcelain Clays; Silica Burned Fire Bricks; Samples of White, Scotch and California Fire Bricks after usage in roofing mills 10 months, N. Clark & Sons, Sacramento.

COLLECTION OF POLISHED SPECIMENS OF CALIFORNIA WOOD from the Railroad Shops, Sacramento.

Eucalyptus, [Blue Gum.]
Locust.
Sugar Pine.
Curly Maple.
California Spruce.
Madrone.
Elm.
California Walnut.
Osage Orange.
White Fir.
Maple.
Birds Eye Maple.
Monterey Cypress.
Pear Wood.
Willow.
Live Oak.
Pinon.
Mountain Mahogany.
Big Tree [Seguora gigantea.]
Hickory.
California Ash.
Second Growth Ash.
Black Locust..
Digger Pine.
California Laurel.
Madrone.
Manzanita.

Polished specimens of Mountain Mahogany, contributed by Mrs. E. B. Crocker, Sacramento.

Sample of fibrous roots of Cottonwood Tree, growing near a well, 40 feet below the surface. These form a complete covering over the water so that they have to be cut out. A. Menke, Routiers.

COLLECTION OF 240 VARIETIES OF CALIFORNIA GROWN SEEDS. EXHIBITED BY W. R. STRONG & CO., SACRAMENTO

Alfalfa.
White Clover.
Timothy.
Orchard Grass.
Australian Rye Grass.
Johnson's Grass.
Sweet Vernal Grass.
Sonoma Wheat,
Australian wheat.
Nepaul Barley.
Rye.
Mexican Corn,
Red Egyptian Corn.
Early 8-Row Sugar Corn.
Evergreen Sugar Cane.
Golden Wax Beans,
Scarlet Runners.
Windsor Beans.
Yorkshire Hero Peas,
Extra Early Peas.
Kentish Invicta Peas,
Lentils.
Hemp Seed.
White Mustard Seed.
Sorghum Seed.
Italian Rye Grass.
Red Clover.
Alfileree.
Red Top.
Perennial Rye Grass.
Mesquite Grass.
Hungarian Grass.
Yellow Millet.
Propo Wheat.
Bald Barley.
Buckwheat.
Pop Corn.
White Egyptian Corn.

Tuscarora Corn.
Evergreen Sugar Corn.
Lima Beans.
Red Beans.
Castor Oil Beans.
Princess Royal Peas.
American Wonder Peas.
Little Gem Peas.
Canary Seed.
Rape Seed.
Caraway Seed.
Sunflower Seed.
Asparagrus, [Cal. Colossal]

Beet Early Blood Turnip.
do Henderson's Pine Apple.
do Extra Early Bassano.
do Egyptian Blood Turnip.
do Long Red Mangle Wurtzel.
do Improved Orange Globe.
do Long Dark Blood.
do Seviss Chard.
do Imperial Sugar.
Carrot Early Scarlet Horn.
do Red Altringham.
do White Belgian.
do Half Long Orange,
Clover, Alsyke.
Cucumber, Early Russian.
do Early Short Green.
do Improved Long Green.
do Early Green Cluster.
do White Spine.
do Early Frame.
Canteloupe Long Green Nutmeg.
do Yellow. Nutmeg.
do Long Green Citron.
do Pine Apple.
do Casaba or Persian.
do Improved California Netted
Musk Mellon, white Japan.
Citron Mellon.
Water Mellon Long Gypsy.
do Orange.
do Mountain Sweet.
do Ice Cream or Peerless.
do Early Jersey Queen.
do Mountain Sprout.
do McIntosh's California Imperial
do Cuban Queen.

Pumpkin- Cashaw.
do Long Cheese.
Peas, Laxton's Superlative.
do Blue Imperial.
do Black Eyed Marrowfat.
Parsnip, Long Smooth.
Rhubarb, Mammoth.
Squash, Yellow Summer Crook-neck.
do Scollop Bush.
do Marblehead.
do Winter Crook-neck.
do Valparaiso.
do Hubbard.
do Mammoth Mexican.
Spinach, Prickly or Fall.
do Round or Summer.
Mau, or Bird Poppy.
Carrot, Long Orange.
Cress, Broad Leaved Garden.
Pepper Grass, Fine Curled Superior.
do do Early Winter.
Water Cress.
Celery, Golden Heart.
do White Solid.
do Boston Market.

Chickory Large Rooted.

Cabbage, Improved Brunswick.
do Boston Marblehead.
do Jersey Wakefield.
do Winningstadt.
do Early Large Schweinfuth.
do Dwarf Curled Savoy.
do Red Dutch.
do Early Ox Heart.
do Premium Flat Dutch.
do Premium Late Drummond.
do Early York.
do Filderkrout.
do Drumhead Savoy.
do Large Early York.
do Newark Early Flat Dutch.
Endive, Broad Leaved Batavian.
do White Moss Curled.
do Green Curled.

Kohl Rabi, Large Early White.
Kale, Sea.
do Purple.
do German Dwarf Green.

Lettuce, Simson's Early Curled.
do Paris White Cos.
do Early Tennis Ball.
do White Silesian.
do Hanson.
do Ice Cabbage.
do Premium White Cabbage.
do Boston Curled.
Leek, London Flag.
Onion, New Giant Rocco.
do Early Large Red.
do White Portugal.
do Yellow Globe.
do Silver Skin.
do Bermuda.
do Red Wethersfield.
Parsley, Triple Curled.
Radish, White Summer.
do Early Scarlet Turnip.
do French Breakfast.
do Early Long Scarlet.
do California White Winter.
do Scarlet Turnip Rooted.
do Scarlet China Winter.
do Long Black Spanish.
do Large White Spanish.
do Scarlet Olive Shaped.
Salsify, or Vegetable Oyster.
Turnip, Yellow Stone.
do Early White Six Weeks.
do Yellow Aberdeen.
do White Globe.
do White Norfolk.
do Early Red Top Strap Leaf
do Ruta Baga.
do Laings Purple Top.
do Sweet German.
do Early White Stone.
do Early White Flat.
Cauliflower, Erfurt Early White.
do Large Asiatic.
do Early Paris.
do Lenormand's
do Large London.
do Walcheren.
do Veitch's Autumn Giant.
Chirvil, Curled
Brocoli, Purple Cape.
do White French.

Egg Plant, Round Purple.
do Early Long Purple.
Kohl Rabi, Large Early White.
do Large Early Purple.
Peas, Dwarf Sugar Edible Pod.
do Tall Sugar Edible Pod.
do Dwarf Grey Edible Pod.
do Tall Grey Edible Pod.
Pepper, Red Chilli.
do Large Bell.
do Large Squash.
do Sweet Mountain.
do Long Red.
do Cayenne.
do Yellow.
Parsley, Moss Curled.
Scorzonera, Black Oyster Plant.
Tomato, Hathway Excelsior.
do Extra Early.
do Conqueror.
do Early Richmond.
do Canada Victor.
do Paragon.
do Trophy.
do Early Large Smoth Red.
do Acme.
do Red Cherry.
do Pear Shaped Yellow.
do Sacramento Favorite.
Beans, Hyacinth.
Malva, Common.

TREE SEED.

Osage Orange.
Hawthorn, (for hedges).
Buckthorn, (for hedges).
Eucalyptus Globula, (blue gum).
Eucalyptus Marainata, (Australian gum).
Morus Alba, (White Mulberry).
American Elm.
California Nutmeg, (Torreya Californica).
Mazzard Cherry.
Monterey Cypress.
Italian Cypress, (Pyramidallis).
California Arbor vitae, (Libro Cedrus).
Oregon Cedar, (Libro Cedrus).
Balsam Fir.
Silver Fir.
Great Silver Fir, (Pecia Grandis).

White Spruce, (Abies Alba).
Silver Spruce, Cal.
Pinus, Torreyana, Cal.
Pinus Lambertiana, (Sugar Pine).
Pinus Sabiniana.
Pinus Insignus.
Pinus Tuburculata.
Pinus Flexilis.
White Pitch Pine.
Red Wood Sequoia, Sempervirens.
Red Wood Sequoia, Gigantea.

SAN BERNARDINO COUNTY.

This is the largest county in the State. It contains an area of 15,022,000 acres of surface, larger in extent than several of the New England States, together. The agricultural and fruit lands are nearly all in the southwestern portion of the county, which is called San Bernardino Valley. The Southern Pacific Railroad passes through this valley, The mountains surrounding the valley are filled with magnificent forests of pine. cedar, and other timber. In resources, this county can boast as great variety as it can of climate and physical features. The numerous and rich mining discoveries which have been made during the past two years, are already attracting considerable attention abroad. These mines offer great inducements to capital. From the agricultural portion of this county the staple product is barley, a winter crop, and in ordinary good seasons, it yields heavily. Alfalfa, which is the principal hay crop, is cut from five to seven times annually, yielding, at each cutting, about two tons. Vegetables of all kinds attain an enormous growth, as do all other agricultural products. The cultivation of semi-tropical fruits has, of late years, received a large share of attention, and immense tracts of land have been devoted to their culture. The principal fruit section is in and around Riverside, where there is a stretch of country some twelve miles in length, devoted entirely to semi-tropical fruits. Riverside is now boxing and shipping large quantities of raisins. Besides semi-tropical fruits, all those of more northern latitudes can be raised, and apples and berries raised in the mountains are unsurpassed for size and flavor. Figs, almonds, and in short, all kinds of fruits and nuts do well here.

Another important industry of the county is agriculture, to which, of late years, a great deal of attention has been devoted,

Large quantities of honey have been and are continually being shipped from this country to the East and Europe.

Photographic Views of Riverside and vicinity from Collier's gallery.

Map of Ontario.

Soil, 6 miles northeast of San Bernardino.
Soil, from stage road between Colton and Riverside, 3 miles from Colton.
Soil, from Arlington tract, Riverside.
Moist, Sandy Soil, from Arlington tract, Riverside.
Soil, from the Lugonia tract.
Alkali Soil, from P. Filanc place, 2 miles from Colton.
Soil, from near San Bernardino.

Artesian water obtained at 100 to 165 feet.

Soil, Redlands.
Soil, from bed of Santa Ana Creek, 1 mile south of Colton.
Soil, from Ontario Station.
Soil, from Ontario.
Soil, from 4½ miles north of Ontaria.

Barley, [winter sown], raised by J. C. Hannon, 3½ miles north of San Gorgonio.
Barley, raised by Mayo & Strong, Ontario.
Defiance Wheat, raised by Chaffey Bros., Ontario.
Barley, Mayo & Strong, Ontario.
Barley, J. G. Hannon, 3½ miles north of San Gorgonio.
Alfalfa Seed, raised by A. A. Warren, one mile southeast of Colton; yield for 1883 on 33 acres 424 centals.
Oats, raised 5 miles east of Colton.
English Walnuts, raised by Jas. Coles, Old San Bernardino.

COLECTION OF 100 VARIETIES OF DOMESTIC, PRESERVED FRUITS FROM ONE FARM.

Put up by Mrs. G. A. Cook, of Lugonia, as follows:

Johnson Mulberries.
Malvoisie Grapes.
Morris White Peach.
Flame Tokay Grape.
Old Mission Grape.
Limes.
Early Moorpark Apricot.

Red Currants.
Brown Turkey Figs.
Heath Cling Peaches.
Autochin Grape.
China Lemon.
Jujube Berries.
Lady Apple..
Crawford late Peach.
Apple Quince.
Coes Golden Drop Plum.
Elenge Nectarine.
White Muscat of Alexandria Grape.
Hacheya Persimmons.
Pomegranate.
Forsees Sweet Apples.
Red Spitzenberger Apple.
Moorpark Apricot.

Hardwick Nectarine.
Rose of Peru Grape.
Seedling Orange.
Vandavere of New York.
Fall Pippin Apple.
Zinfandel Grape.
Red Raspberries.
Smyrna Figs.
English Figs.
Yellow Bell Flower Apple.
Seckel Pears
Emperor Grapes.
Red Haws.
Strawberry Guavas.
California Black Fig.
Orange Quince.
Chickasaw Plum.
Pomegranate in shell.
Stanwick Nectarine.
Wilson Strawberries.
Lawrence Pear.
Winter Nelis Pear.
Lombard Plum.
Pawpaws.
White Tokay Grapes.
Jefferson Plums.
White Malaga Grapes.
Fall Wine Apples.
Yellow Egg Plum.
Salway Peach.
Beurre Claireeau Peas.
Muscatel De Cord Blanc Grape.
Orange Cling Peach.
Amony Persimmons.
Mission Olives.
Black Morocco Grape.
Beurre Easter Pear.
Sicily Lemon.
Royal Apricots.
Lemon Cling Peach.
Oakland Seedling Peach.
Cave Persimmons.
Zante Currants.
Black Tartarran Cherries.
Lemon Quince.
Early Golden Apricots.
Smocks Free Peach.
Lemon Cling Peach.
R. I. Greening Apples.
Napoleon Bigarrean Cherries.
Dairmico Persimmon.
White Gooseberries.
Hungarian Prune.
Beurre Beaumont Pear.
December Peach.
White Currant.
White Genoa Figs.
Woods Early Apricot.
Black Naples Currant.
Victoria Plums.
Muscatel Grapes.
Emily Birot Pears.
Trousseau Grapes.
Corneshorne Grapes.
Brown Ischia Figs.
Boston Nectarine.
Crawford Early Peach.
Bartlett Pears.
Indian Peach.

COLLECTION OF RAISINS put up by J. E. Cutter, Riverside.

Muscat Raisins.
Sultana Raisins.
Seedless Muscat Raisins.
Fancy Sultana Raisins.
London Layers.
Fancy Layer Raisins.
Bleached Layer Raisins.
Dehesia Raisins.
Dehesia Raisins, cured in Olive Oil.
Muscat Raisins, cured in Olive Oil.

COLLECTION OF RAISINS from Chaffey Bros., Ontario.

London Layer Raisins.
Loose Muscatel Raisins.

SAN DIEGO COUNTY.

This is the most southernly county of California and borders on Lower California, a part of Mexico. It is the second largest county in the State, having an area of 9,580,000 acres, which is naturally divided into three sections. The entire eastern haif, lying east of the San Jacinto Mountains, embraciug more than one-half of its territory, is a part of the great Colorado Desert, being a barren waste, and in many places below sea level; it is characterized by granite points, sand hills, dry lakes, mud volcanoes, hot springs, a growth of cactus, and intolerable heat. The second division lies west of the San Jacinto Mountains, and comprising a series of valleys and plains, which rise in the west to the foothills of the Coast Range. These hills and mountains are covered with considerable timber. The third section lies between these foothills and the ocean. The surface of this country is known as mesa lands.

The most important topographical feature of the country is the Bay of San Diego, one of the few natural harbors of this coast. It is a fine sheet of water, 20 miles long by 3 wide, is almost land-locked, and has a safe entrance and a good anchorage for the largest sea-going vessels. The Southern Pacific Transcontinental Railroad passes through San Diego county. The California Southern has recently been built from Colton, on the S. P., south to San Diego City, a distance of 126 miles. The Pacific Coast steamers make regular trips between San Francisco and San Diego every five days. San Diego is the oldest settled county in the State. The bay was first visited by white men, under Cabrillo, in 1542, only 60 years after the discovery of America.

In the fertile portion of the county, or in the two sections west of the desert region, are more than 30 valleys, from 2 to 15 miles

long, and embracing from a few hundred to 20,000 acres; several of these valleys are very fertile, with a dark alluvial soil, while the rolling lands are of a reddish nature, underlaid with a clay subsoil. These lands, up to a few years ago, were considered valueless, but it has been proved that by proper cultivation, they are quite productive. Irrigation is, at present, in advance of railroading or any other interest. The great need of San Diego county is water. There is considerable available water to be had, if properly husbanded, that would make thousands of acres, now almost valueless, the most productive land in the world.

The farm products are wheat, barley, wool, honey and semi-tropical fruits. Oranges, lemons, limes, olives, peaches, almonds, and English walnuts all do remarkably well. The oranges of San Diego county are considered among the best flavored of the coast.

Bayo Beans, W. C. Kimball.
Lima Beans, J. Currier, San Diego.
Lima Beans, Dr. Annis, National Ranch.
Pea Beans, Geo. L Kimball, National Ranch.
Lima Beans, Hugh Bros.
Spanish Beans, James Currier, San Diego.
Pink Beans, G H. Parsons, San Diego.
Navy Beans, Jas. Currier, San Diego.
Beans, C. F. Blossom, National Ranch.
Propo Wheat, W. W. Stewart, San Diego.
Buck Wheat, W. W. Stewart, San Diego.
Defiance Wheat, Sickler Bros., Pala.
Propo Wheat, Sickler Bros., Pala.
Wild Oats, F. N. Kimball [over 11 feet tall] San Diego.
Rye, F. A. Kimball, San Diego (7 feet 4 inches tall) San Diego.
Propo Wheat, R. Kenworthy, Moosa Canon.
Propo Wheat, T. Wackerman, San Diego.
Bearded Barley. San Jacinto.
Rye, S. J. Band, National Ranch.
Sonora Wheat, R. Kenworthy, Moosa Canon.
Defiiance Wheat, D. Kenworthy.
Small White Corn, W. W. Stewart, San Diego.
Egyptian Corn; F. A. Kimball, San Diego.
Small Yellow Corn, W. W. Stewart, San Diego.
Evergreen Millet (bundle), Jno. Judson.
5 varieties of Clover (bundles), Kimball Bros.
18 varieties of Native Grasses (bundles), Kimball Bros.

Evergreen Millet (bundle), W. C. Latta, San Pasque.
Evergreen Millet Seed, H. C. Chittenden, Ocean Valley Ranch
White Egyptian Corn Seed, H. C. Chittenden, Ocean Valley Ranch.
El Cajou Raisins, R. G. Clark.
Olives, San Diego, 1883, W. C. Kimball.
Collection of Jelly, Kimball Bros, National City.
Mandarin Oranges, F. A. Kimball, National City.
Citron of Commerce, F. A. Kimball, National City.
Guava and Strawberry, Kimball Bros., National City.
English Walnuts, E. Barnes, National Ranch.
English Walnuts, T. Parsons, National Ranch.
English Walnuts, G. C. Swan, National Ranch.
Soft Shell Almonds, G. C. Swan, National Ranch.
Soft Shell Almonds, F. A. Kimball, National City.
Bidwell Almonds, G. C. Swan, National Ranch.
Peanuts, Hugh Bros., San Diego.
Castor Oil Bean, W. C. Kimball, San Diego.
Cotton Plant, seed planted Dec, 1882; pulled up Oct. 15th, 1883 while bearing second crop, grown at Indio Station, S. P. R. R. (20 feet below sea level.)
Ostrich Egg, Fall Brooke, San Diego.
Soil, Indio Station, S. P. R. R., in which Cotton specimen was grown.
Barley, raised by Juan Murrietto, near Temecula.
Photograph of National Ranch Exhibit, 1880.
Map of Bay of San Diego, published by the U. S. Coast Survey.
Ore from Poorman Mining District, contributed by A. H. Douglas.

SAN FRANCISCO CO NTY

In May, 1850, the city of San Francisco first entered upon its formal and legally recognized existence as an independent municipality. The total land area of the city and county is 26,681 acres, by far the smallest county in the State, its average breadth from ocean to bay being 4½, by 6½ miles in length. The peninsula on which the city is located is about 30 miles long by 15 wide, the city and county occupying the western end. There are 1097 streets, avenues and alleys, which appear on the map of the city, and 27,550 buildings, about 5000 of which are brick; the balance are of wood. There are 92 church organization, all of which have houses of worship in various parts of the city. The various public and mercantile buildings are befitting a city having a population of over 300,000; many of the private residences are palatial.

There are 850 different manufacturing establishments in San Francisco, 297 of these are incorporated companies, and altogether employing 40,000 mechanics, making a total yearly manufacturing product of over $75,000,000. The mammoth sugar refinery of Claus Spreckels, recently completed—a ten and twelve story brick—at a cost, including machinery, oi $1,200,000, will turn out, when in full operation, 600 tons of sugar per day. There are 32 iron and 12 brass foundries in fhe city; one rolling mill, giving emyloyment to 450 men and boys; one wire rope factory, employing some 60 hands; three glass works, furnishing employment for 250 men and boys, who are principally engaged in manufacturing bottles, jars and small wares; one rope walk, furnishing emplyment for 50 men and 120 boys; ten flour and six feed mills are constantly employed, furnishing flour and feed, which is largely exported to foreign countries; 59 tanneries are represented in this city, some of these, however, are located

in different parts of the State, and have their headquarters here. There are also 34 breweries in the city; the Boca, located in the Sierra Nevada Mountains, has its headquarters here, and the Fredricksburg, of San Jose has also an agency. There is an unusually large amount of beer manufactured in San Francisco. A number of our largest brewers are increasing their capacity. There are three distilleries in the State, two of which are in this city. There are about 500 white men, 200 white females and 4500 Chinese employed in the manufacture of cigars. About 70 boot and shoe establishments are in the city, employing 3500 hands; it is estimated that fully 2900 of these are Chinese. The manufacture of clothing and underware has increased from 25 to 40 per cent. There are six extensive box factories, employing 450 men and boys, besides a number of smaller establishments of this character, there are a large number of important industries that cannot appear in so brief an article as this, such as powder works, bag factories, silk factory, jewelry works, carriage and wagon factories, billiard table works, wine tank builders, sash, door and blind factories, soap works, agricultural works, mirror works, glue factories, type foundries, trunk factories, terra cotta works, stucco works, furniture factories, harness and saddle factories, fruit canneries, oil works, marble works, cracker bakeries, glove factories, etc.

COLLECTION OF FINISHING AND BUILDING WOODS, C. A. Hooper & Co., San Francisco.
- Sycamore (several varieties of grain).
- Alaska Cedar.
- White Cedar.
- Alaska Spruce.
- Oregon White Cedar.

COLLECTION OF PUGET SOUND WOODS, from Pope & Talbot, San Francisco.
- Puget Sound Shingles (each shingle being the full width of the bunch).
- Puget Sound Fir Plank.
- Three Views of Pope & Talbot Mills, framed in Fir and Cedar.

Two large Redwood Planks, California Redwood Co., San Francisco.

COLLECTION OF REDWOOD from the Loma Prieta Lumber Co., Watsonville, furnished by A. C. Bassett, San Francisco. Panels of Redwood, polished and showing the great variety of grain and color of this wood, as well as its adaptability to interior and car finish.

Redwood Telegraph Pole (sawed).
Redwood Railway Ties (sleepers).
Redwood Railway Ties (sleepers) that have been in constant use on a main line switch twenty one years.
Redwood Sawed Shingles.
Redwood Bark Sawed Shingles.
Redwood Split Shakes, showing the straight grain and remarkable splitting qualities of this wood.
Redwood Shakes, 12 inches wide, split.

Large case containing collection of sleeve-buttons manufactured from California woods, by G. F. Atkinson, San Francisco.

Redwood Newel Post, manufactured by G. F. Atkinson, San Francisco.

MISCELLANEOUS TIMBER SPECIMENS.

Seed Vessels of American Aloe (Century Plant).
cross section of blossom stalk of American Aloe (Century Plant), from Los Angeles county.
Specimen of Cork Bark, from the farm of C. G. Hutchinson, San Gabriel.
Cork Oak Acorns, from the farm of C. G. Hutchinson, San Gabriel.
Cork Oak Bark and Leaves, from Sonoma county.
Live Oak Acorns and Leaves from Los Angeles county.
Leaf and Fruit of Madrone, from Lake county.
Manzanita Berries, from Sonoma county.
California Buckeyes, from Mariposa county.
Seed of Loquat (introduced from Japan), from Los Angeles county.
Seed of Spanish Bayonet, from Los Angeles county.
Brush made from leaf of Spanish Bayonet, (used to brush bees from comb when changing in hive), from Los Angeles county.
Cactus, Prickly Pear, skeleton of stock and leaf, Los Angeles county.
Pomegranate Root, Santa Clara county.
Section of Lemon Verbena (polished), Sacramento county.
Mountain Mahogany, Santa Clara county.
Oak Root, found near Laurel Hill, San Francisco country.
Cones and Seeds of Yellow Pine, El Dorado county.
Cones and Seeds of Sequoia-gigantea, Calaveras county.
Cones and Seeds of Monterey Cypress, Monterey county.
Cones of Pinus Insignis, Monterey county.

Cones of Nut Pine, Monterey county.
Cones of Sugar Pine, Calaveras county.
Polished Specimen of a Fuschia, Santa Clara county.
Specimen of White Mulberry Tree.
Sawdust and refuse pieces of lumber (Redwood) from dump of first sawmill built in Monterey county.
Cones of Douglas Spruce.
Cones of Tuberculated Pine.
Cones of Bishops Pine.
Moss from Pines of Lake county.
Leaves and Fruit of California Dogwood, Lake county.
Wood of California Nutmeg, Santa Clara county.
Wood of Olive, San Diego county.
Section of California Elder, 1 foot in diameter.

COLLECTION OF HERMETRICALLY SEALED FRUITS, A. Lusk & Co., San Francisco.

Lemon Cling Peach.
Peaches.
Green Gage Plum.
Golden Drop Plum.
Egg Plum.
German Prunes.
Apricots.
Bartlett Pears.
Muscat Grape.
White Cherries.

COLLECTION FLAVORING EXTRACTS, Paul Reiger & Co., San Francisco.

Mulberry.	Orange.	Peppermint.
Lemon	Raspberry.	Sarsaparilla.
Vanilla.	Wintergreen.	Rose.
Strawberry.	Celery.	Nectarine.
Banana.	Coffee.	Almond.
Cloves.	Peach.	Grape.
Cocoanut.	Pineapple.	

Also Lemon Sugar and Jamaica Ginger.

DESSICCATED COCOANUT, Pacific Coast Dessiccated Cocoanut Co., San Francisco.

DESSICCATED COCOANUT FROM TAHITI AND VANILLA BEANS, J. Pinet, San Francisco.

SIAM RICE, CLEANED BY THE INDIA RICE MILL, San Francisco.

EXHIBIT OF THE CALIFORNIA ITALIAN PASTE COMPANY, San Francisco, comprising:

Macaroni Extra No. 1, white and yellow.
Vermicelli Extra No. 1, white and yellow.
Spaghetti Extra No. 1, white and yellow.
Mustacioli Extra No. 1, white and yellow.

Lasagnetti Extra No. 1, white and yellow.
Imperial Macaroni.

"LION BRAND," CALIFORNIA EVAPORATED FRUITS, George W. Meade & Co., San Francisco.
Evaporated Peaches and Prunes.

EXHIBIT OF CALIFORNIA RAISINS, William T. Coleman & Co., San Francisco.

COLLECTION OF CENTRAL AMERICAN COFFEES, for sale in the San Francisco markets, R. Hockofler, San Francisco.

COLLECTION OF SPICES, CHOCOLATE, COFFEES AND TEAS, Guittard & Co., San Francisco, as follows:
Prarie Flower Tea.
Cafe Des Gourmands.
Chocolat Des Dames.
Single, Double, Triple Vanilla Chocolates.
Homœpathic Cocoa.
French Breakfast Cocoa.
Sweet German Chocolate.
Fancy Chocolate.
34 Samples of Cocoa Beans.
Whole and Ground Spices.

C. J. HAWLEY & CO., San Francisco.
Hawley's New Blend Tea.
Hawley's Golden State Tea,
Hawley's Home-made Jellies.
Hawley's Yeast Powder.

KING MORSE CANNING CO., San Francisco.
Pioneer Brand Fresh Salmon.

TIBBALS PATENT SEWER TRAP AND TIDE GATE, manufactured by J. S. Tibbals, San Francisco. A simple, cheap and effective sanitary invention.

CENTRIFUGAL ROLLER QUARTZ MILL, manufactured by F. A. Huntington, San Francisco.

The ore and water are fed into the mill at the hopper. The rotating rollers and scrapers throw the ore against the ring-die where it is crushed to any desired fineness by the centrifugal force of the rollers as they pass over it. The water and pulverized ore are thrown against and through the screens when fine enough. The discharge is so perfect that it makes little or no slimes and leaves the pulp in good condition for concentration. The rollers are suspended, leaving a space of one inch between them and the bottom of the mill, thus allowing them to pass freely over the quicksilver and amalgam without grinding it or throwing it from the mill, while it agitates it sufficiently to make amalgamation perfect. For wet crushing and gold saving it has no equal.

BANDMAN, NEILSON & CO., San Francisco.
Giant Powder, No. 1.
Giant Powder, No. 2.

Noble's Explosive Gelatine.

This giant powder is extensively used in mining and other operations requiring high explosives.

SANBORN'S NEW CHAIN PULLEY, C. Sanborn, inventor, San Francisco.

"The invention evidently simplifies, in a large degree, the construction of differential pulleys, makes them less in cost, weight, wear and repairs, and ease of handling and operating. We consider the new device worthy of the attention of manufacturers and all users of such articles. The size of a half ton lift weighs only about thirty pounds."—*Mining and Scientific Press*, Sept. 6, 1884.

PETERSON'S ROTARY SAFETY GUARD FOR STREET CARS, L. Peterson, inventor, San Francisco.

C. RICHARD KNAPP'S VACUUM PRESS PERCOLATOR, invented by C. Richard Knapp, San Francisco.

A novel process by which the most complex medicinal virtues of drugs are completely extracted in thirty minutes.

SPAULDING'S IMPROVED CHISEL BIT CIRCULAR SAW, manufactured by the N. W. Spaulding Saw Company, San Francisco

The saw never clogs in the cut, nor chokes in the timber. It frees itself perfectly under all circumstances.

SPAULDING'S IMPROVED SAW TOOTH FOR CIRCULAR SAWS, N. W. Spaulding Saw Company.

FILING TABLE FOR CIRCULAR SAWS, N. W. Spaulding Saw Company.

COREY'S EQUALIZING SHEEP SHEARS, exhibited by N. W. Spaulding.

This shear has been in use in California for the past four years, and is the favorite wherever used or known.

COFFEE'S PATENT STEAM TRAP, manufactured by G. W. Coffee, San Francisco.

Manufacturers and others using steam-heating appliances in sugar mills, refineries, breweries; hotels, public buildings, canneries, and all other institutions having any amount of condensation to contend with, will find in this trap a long-felt need, readily freeing the pipes of all condensed water, at the same time making it impossible for any steam to escape until its whole duty is accomplished.

I. L. MERRILL'S PATENT WIRE-BOUND ASBESTOS BOILER COVERING, manufactured by I. L. Merrill, San Francisco.

It effects a large saving of fuel, lasts as long as the iron upon which it is applied, and is reasonable in cost.

MERRILL'S BOILER CLEANING LIQUID COMPOUND, I. L. Merrill.

For the prevention and removal of scale in steam boilers, and for neutralizing acid, sulphur and mineral waters.

ASBESTOS, STEATITE, SOAPSTONE, MASTIC ROOFING, I. L. Merrill.

This preparation has been on trial over ten years. Is suitable for hot or cold climates, and is not dangerous, as it does not require fire when being applied.

ARTIFICIAL STONE FOR SIDEWALKS, ETC., manufactured by the California Artificial Stone Paving Co., San Francisco.

Samples of stone exhibited that have been under constant wear for ten years. Also the material from which the same is manufactured.

CONCRETE ARCH FOR SIDEWALKS AND OVER AREAS, also, model of the same, George Goodman, San Francisco.

In this invention the entire arch is made of concrete, or other similar materials, while in its plastic state; in a short time the material hardens and becomes artificial stone.

PATENT BASIN FAUCETS OR STOP COCKS, invented by Lee D. Craig; manufactured by the Challenge Faucet Company, San Francisco.

PARAFFINE PAINT COMPANY'S CLOTH COMPOUND, LEATHER PRESERVATIVE, ROOFING AND PILE COVERING, manufactured by the Paraffine Paint Company, San Francisco.

The Paint is in liquid form, already for use. It preserves wood from decay and the ravages of insects. Surfaces coated are not effected by salt or fresh water, acids or alkalies. It preserves iron and other metals from rust.

SMITH'S PATENT BELT HINGE, manufactured by the Smith Belt Hinge Manufacturing Company, San Francisco.

These Belt Hinges for joining the ends of Belts, have been subjected to the most severe tests. They are being used in a large number of manufacturing establishments.

MOISE'S PATENT FRUIT JAR HOLDER, for preserving vegetables, meats and fish, by steaming in glass bottles, earthen jars or cans in any wash boiler without breakage, L. H. Moise, Patentee, San Francisco.

This invention, having been a long felt want, places the small fruit raiser and housewife in a position of independence in putting up their own fruits and vegetables, as it needs no skilled management to use it. It is simple and efficient, and can be adapted to any store or range.

EXHIBIT OF TOILET AND LAUNDRY SOAP, manufactured by the Standard Soap Company, San Francisco.

This is one of the largest and finest Soap Factories in the world. Thoroughly equipped with all the requisites for manufacturing Triple Extra and fine Toilet soaps, as well as superior family soaps of every conceivable kind and quality.

GERMAN GRANULATED SOAP, J. Everding & Co., San Francisco

"BEAUTIFUL SNOW" [cosmetic], A. Bowman. San Francisco.

COLLECTION OF GARDEN SEEDS, R. J. Trumble & Co., San Francisco.

Early Half Long Scarlet Carrots.
Early Scarlet Horn Carrot.
Long Red Mangel Wurtzel Beet.
Early Blood Turn ip Beet.
Early China Red Eye Bean.
Stowell's Evergreen Sweet Corn.
Jersey Wakefield Cabbage.
Premium Flat Dutch Cabbage.
White Polish Celery.
Early Curled Lettuce.
White Paris Cos Lettuce.
Yellow Danvers Onion.
Long White Dutch Parsnip.
Double Curled Parsley.
Yorkshire Hero Peas.
Summer Scallop Bush Squash.
Early Scarlet Turnip Raddish.
Round Leaved Spinach.
Trophy Tomato.
Early Flat Dutch Turnip.
White Imperial Watermellon.
Champion Early Peas.

PHOTOGRAPHS OF THE HERCULES DREDGER, Williams and Bixler, San Francisco.

These Dredgers are being used not only extensively in California, but are also in use in excavating the Panama Ship Canal.

IMPROVED MINING PICKS, of different forms, made by John Wright, San Francisco.

INDIAN TANNED BUCKSKIN GLOVES, manufactured by H. M. Heineman, San Francisco.

This case also contains a Glove made from the skin of a woman, contributed by a medical student of the State University at Berkley.

EXHIBIT OF LEATHER, J. C. Rued & Co., San Francisco, consisting of, Brooklyn Sole Leather,
Brooklyn Skirting Leather.
Brooklyn Harness Leather.

BUTTON FLY LINING, 3x, Davidson & Rued, San Francisco.

SAMPLES OF ROPE, San Francisco Cordage Co., (Tubbs & Co.)

WICKSON'S ORCHARD AND VINEYARD SINGLETREE, G. G. Wickson & Co.,San Francisco. This is a sure prevention against damage to trees or vines by careless driving.

EXHIBIT OF THE SAN FRANCISCO STOCK BREWERY, Stock Pale Ale and Stock Porter.

SEA MOSS PICTURES, Dr. F. M. Clark, San Francisco.

SHEET MUSIC, G. W. Hagen, San Francisco.

RAMIE FIBER COMPANY, San Francisco; Samples of Ramie showing process, treated and untreated.

UPRIGHT CABINET GRAND PIANO, Antisell & Co., San Francisco.

GRANT'S PATENT DOUBLE BACK SHIRTS, made by the California Hosiery Co., San Francisco.

SHOW CASES, manufactured by Dixon Bernstein & Co., San Francisco.

CASTALIAN NATURAL MINERAL WATER, EXHIBITED BY FORBES AND PLAISTED, San Francisco.

Analysis of Castalian Natural Mineral Spring Water. By Prof. THOS. PRICE, M. D., Analytical Chemist.

CHEMICAL LABORATORY, 524 SACRAMENTO ST.,
SAN FRANCISCO, August 16th., 1880.

Messrs. of the California Volcanic Water Co., San Francisco:

GENTLEMEN:—I have made a careful analysis of the five gallons of water left with me, and below please find results in grains per gallon:

Chloride of Sodium	1840.72	grains,
Chloride of Potassium	132.30	"
Carbonate of Soda	1724.11	"
Sulphate of Soda	651.02	"
Sulphide of Sodium	46.34	"
Silica	14 28	"
Organic Matter	13.48	"
Iodine and Bromine	traces.	
Iron	traces.	
Boracic and Phosphoric Acids	traces.	
Lime and Magnesia	traces.	
	4422.25	grs.

The water of which the foregoing is an analysis is a very remarkable one, being at once a sulphur, salt, carbonate, alkaline and slightly ferruginous water. The digestive and urinary organs are specially affected by alkaline waters; the liver and alimentary canal by saline ones. The skin and mucous respitary membranes, are, according to the best

medical authorites, influenced by sulphur waters, while a special action on the blood has always been attributed to ferruginous sources. Respectfully yours,

THOMAS PRICE, M. D., Analytical Chemist

EXHIBIT OF CALIFORNIA WHITE TABLE WINES, Gundlach Rhine Farm, Sonoma; from J. Gundlach & Co., San Francisco, comprising "Cabinet Riesling," "Traminer," "Cabinet Gutedel."

I. X. L. ELASTIC TRUSS CABINET, A. A. McLean, Inventor, San Francisco.

This Truss, which has taken a large number of premiums, has been acknowledged by the medical faculty as the only radical cure truss in the world.

ARCHITECTURAL TERA COTTA AND EGYPTIAN TERRA COTTA VASE & PEDESTAL, Gladding, McBean & Co., San Francisco.

This vase, twenty-six (26) inches wide and forty-two (42) inches high, is a copy of a vase found in the ruins of Thebes which is now in the British Museum, and which anttquarians think is more than three thousand years old.

PILSNER LAGER BEER, manufactured by the Fredericksburg Brewing Company, San Francisco.

WELLINGTON'S IMPROVED EGG FOOD, B. F. Wellington, San Francisco.

On the Pacific Coast where so many people make it a business of hatching chickens by incubators, thereby having several hundred chickens on hand at one time, this egg food is indispensable.

CALFIORNIA WOOD NOVELTIES, G. F. Atkinson, San Francisco.

These mementoes of California, both useful and ornamental, are made in San Francisco from rare specimens of woods carefully selected and thoroughly seasoned. But few of these woods are found in any other part of the world and all are possessed of great beauty.

STATISTICAL STATEMENT, showing the highest average cash price, for hides, skins, tallow, etc., for each month, from January. 1874 to December, 1883, inclusive, published by W. B. Sumner & Co., San Francisco.

W. A. BATEMAN'S ORIENTAL POWDER, W. A. Bateman, San

This powder contains no poisonous or acid matter. It is composed mostly of iron and ammonia. It removes all stains, grease, paint, pencil marks, ink and pitch.

COLLECTION OF BEANS AND PEAS from J. H. Thomas, San Francisco.

CRUDE AND MANUFACTURED BORAX, from Wm. T. Coleman & Co., San Francisco.

Borax is an important mineral product of California, where it is found in abundance.

LARGE SHOW CASE CONTAINING CALIFORNIA WOOL, Cristie & Wise, San Francisco.

NAPA PATENT LEATHER, B. F. Sawyer & Co., Napa. Colored, smoked and white Buckskin; smoked, white and black kid.

COLLECTION OF PHOTOGRAPHIC VIEWS OF PACIFIC COAST SCENERY, Yosemite Valley, Vineyard, Orchard and Mining Scenes, San Francisco; "California Babies," Instantaneous Views, Prominent Californians, and Distinguished Men from all parts of the World, from the Studio of I. W. Taber, San Francisco.

The artistic finish and excellent workmanship from Mr. Taber's Gallery, have established his name far beyond the boundaries of California. At the World's Exposition and at the Southern Exposition at Louisville, these photographs received the highest awards over all competitors.

COLLECTIONS OF PHOTOGRAPHIC VIEWS OF THE YOSEMITE VALLEY, in sunshine, cloud and storm; Monterey and surroundings; Del Monte Hotel and Ocean Views, made by George Fisk, of the Yosemite Valley; exhibited by Sanborn, Vail & Co., San Francisco.

TWO LARGE FRAMES CONTAINING EIGHT CHROMO LITHOGRAPS OF CALIFORNIA GRAPES, published by E. Bosquie & Co., San Francisco, exhibited by Sanborn, Vail & Co., San Francisco.

LITHOGRAPHS OF SAN FRANCISCO IN 1846-47 and of San Francisco in 1849, exhibited by Max Burnhardt & Co., San Francisco.

COLLECTION OF VIEWS OF MINING MACHINERY, manufactured by Pacific Iron Works; Rankin, Bryan & Co., proprietors, San Francisco.

COLLECTION OF VIEWS OF THE MARKET ST., HAIGHT ST. AND VALENCIA ST. CABLE ROADS, AND ROOT'S PATENT GRIP AND MACHINE FOR MANUFACTURING WIRE CABLES, contributed by the Market street Cable Railroad Company, San Francisco.

MAP OF THE CITY AND COUNTY OF SAN FRANCISCO, published by Warren Holt, San Francisco.

The scale of this map is eight hundred feet to the inch.

MAP OF CALIFORNIA AND NEVADA, published by Warren Holt, San Francisco.

This map is on a scale of twelve miles to the inch and shows townships, sections, railroads, railroad lands, private grants, land districts, land offices, judicial districts, military stations, Indian reservations, mining and agricultural lands, etc.

COLLECTION OF PAINTINGS IN OILS, by S. M. Brooks, San Francisco, comprising one picture of a hand, two of bunches of California grapes and two of bunches of California apples.

Mr. Brooks is acknowledged as a master in the portrayal of subjects. The artistic finish and fidelity to nature are both remarkable in the example of his skill here shown.

LITHOGRAPH OF THE BALDWIN HOTEL AND THEATRE, San Francisco. This hotel was built and is owned by E. J. Baldwin ("Lucky Baldwin").

This is one of the finest and best conducted hotels in San Francisco. The theatre, which is in the building, is a gem.

LITHOGRAPHS OF THE PALACE HOTEL, San Francisco.

This building occupies an entire block (344 by 265 feet), is seven stories high and cost three million dollars. The base of the exterior foundation wall is 12 feet wide. All the walls at every 5 feet, commencing at the foundation, are banded together with bars of iron, forming a perfect iron basket-work filled with brick. The quantity of iron so used increases at every story toward the roof, and in the upper story the iron bands are only two feet apart. In its construction 24,660,566 hand bricks, 28,393 barrels of cement and 22,160 barrels of lime were used. Four artesian wells, with a capacity of 28,000 gallons per hour, together with the city water-works supply a large reservoir in the basement, which has a capacity of 630,000 gallons. On the roof are 7 tanks, with an aggregate capacity of 128,000 gallons. The opinion of the chief engineer of the San Francisco Fire Department is: "With all the extraordinary precautions and most complete fire apparatus ever introduced into any building on the continent, it is an utter impossibility to burn the buildings or any adjacent property." It was built by William C. Ralston, and after his death, owned by the late William Sharon.

EXHIBITS OF CALIFORNIA BLANKETS from the Golden Gate Woolen Manufacturing Company, San Francisco; Thos. Kelly & Co., 89 Chauncy street, Boston, Mass., selling agents.

This exhibit contains an assortment of the different grades of woolen blankets and carriage robes manufactured by this company. The reputation for superiority which is possessed by the goods made by this company will be easily understood upon an examination of its exhibit.

DEWEY'S PATENT ELASTIC PAPER BINDER, published by Dewey & Co., San Francisco.

The filing of newspapers for future reference with a good binder is an easy and pleasant accomplishment.

DEWEY'S ELASTIC FILE-HOLDER, Dewey & Co., San Francisco.

Having considerable use for file-holders, the inventor could find none of the hundred different kinds of patented and in use devoid of decidedly objectionable features. After several years used, and repeated improvements, the device has proved the best.

MAP OF THE SAN FRANCISCO PENINSULA, published by the United States Coast Survey Co., San Francisco.

This map shows by curved lines the difference of elevation. The distance between the lines representing 20 feet in altitude.

COPY OF WAY-BILL FOR THE PIONEER SHIPMENT from San Francisco to New Orleans, over the Sunset Route, Southern Pacific Company, San Francisco.

This way-bill is dated San Francisco, January 25, 1883, and covers a shipment of 50 barrels of California wine, shipped by Arpad Haraszthy, of San Francisco, to F. Hollander of New Orleans.

PHOTOGRAPH OF THE DRIVING OF THE LAST SPIKE on the Central Pacific Railroad, near Promintory Station, Utah.

This is a photograph of the celebrated painting by Thos. Hill (8 x 12 feet), which was exhibited at the World's Exposition. This picture represents one of the most noteworthy events in recent American history, that is; the completion of the first trans-continental railroad.

MAP OF THE NORTHERN PORTION OF THE SACRAMENTO VALLEY, showing railroad and government lands opened for settlement prepared and exhibited by the California Immigration Association, No. 10 California St., San Francisco.

REDWOOD LUMBERING IN CALIFORNIA FORESTS, with illustrations, published by Edger, Cherry & Co., San Francisco.

PACIFIC COAST ALBUM, Views of California Scenery, published by Eli S. Denison, Oakland.

This is the most complete collection of Pacific Coast views that has been published by California.

EDUCATIONAL PUBLICATIONS OF A. L. BANCROFT & CO., SAN FRANCISCO.

Consisting of "Manual of American Ideas," "Essentials of Book-keeping," "Essentials of Arithmetic," "Pure English," "Bancroft's Readers," "Montgomery's Revolving Chart," "Bancroft's Pictorial Chart of Geographical Definitions," "Bancroft's Topical Chart of Geography," "Bancroft's Topical Chart of American History," and "Henslow's Botanical Charts." These valuable educational publications are deserving of careful examination.

LAW PUBLICATIONS OF A. L. BANCROFT & Co., San Francisco, including "American Decisions," 62 volumes, with Index and Digest; "California Reports," (63 volumes), "Nevada Reports" (17 volumes), "Oregon Reports" (10 volumes), "Utah Reports" (1 volume), "Idaho Reports" (1 volume), "Wyoming Reports" (1 volume), "New Mexico Reports" (1 volume), "U. S. Reports," Ninth Circuit, (8 volumes), "Codes and Statutes Reports," "Hittell's Codes and Statutes," [3 volumes]; "Rhodes' California Digest" [2 volumes], "Bancroft's Forms," "Bancroft's Citizens' Law Books," "West Virginia Digests," and a large number of legal publications.

The value of the law books issued by this firm is too well known to require extended comment. "The American Decisions" in which 11,119 leading cases are re-reported and 158,563 cases cited in the discussion of other questions presented, form a most valuable reference work library for the lawyer. The fact that E. W. Dedenger's "West Virginia Digest" is published by Bancroft, demonstrates the advantages this firm can offer to authors.

THE HISTORICAL WORKS OF HUBERT HOWE BANCROFT, published by A. L. Bancroft & Co., San Francisco.

The territory covered by "Bancroft's Works" is the western half of North America, from Panama to Alaska, including the whole of Central America and Mexico.

This extensive work, in the preparation of the first five volumes of which over 14,000 authorities have been consulted, and which through all coming generations will be a text book for the student of history, is a grand monument, not only to the patient research, comprehensive condensation, and scholarly attainments of the author, who was the founder of the large publishing house which issues the work; but in its excellent printing and binding forms a splendid testimonial of the workmanship of the mammoth house of A. L. Bancroft & Co.

SILK EXHIBIT from the Ladies' Silk Culture Association of California. Display of cocoons, reeled silk. silk thread, ladies hose and silk cloth, produced in California and manufactured from California silk.

These specimens are from a large number of different counties in the State, and serve to give an idea of the extent and importance of an industry that is becoming wide-spread throughout California.

LADIES' DARNER AND GLOVE MENDER, NEEDLE AND THIMBLE CASE, invented and manufactured by G. F. Atkinson, San Francisco.

PHOTOGRAPH TAKEN BY HOUSEWORTH & CO., from Nahl's famous painting "Sutler's Mill in 1851."
This is the place where, January 19th, 1848, gold was discovered by Marshall, which led to the great rush to California.

COLLECTION OF MILL PRODUCTS from the Capital Mills, Deming, Palmer & Co., San Francisco.

SAN JOAQUIN COUNTY.

This county has an area of 928,000 acres, 876,287 acres of which are owned and assessed, thus leaving only 51,813 acres for waste land, which is river bed and some broken land in the northeastern and southwestern portion of the county. It is watered by the San Joaquin river, which passes through it from south to north, spreading into three channels a few miles above Stockton, and taking in its embrace two of the largest islands in the State.

The soil of the river bottoms is a rich sandy loam, well adapted to the growth of sweet potatoes, hops, corn, peanuts, flax, hemp, jute, ramie, chicory, melons, small fruits, vegetables, and all manner of root crops, producing enormously. The county occupies a most favorable and important position, on account of its accessibility to the markets of the world, its navigable streams, its excellent railroad facilities; its large area of tillable soil, is of the most productive character. While grain growing predominates over all others. stock raising forms no inconsiderable part of the industries of the county. Improved fine-bred horses, cattle, sheep and swine, have been imported from other countries, giving the live-stock of this section a wide-spread reputation. For the past few years many of the finest horses in the State have been bred in this county. Dairying and the raising of fine cattle are carried on to some extent, while sheep husbandry is quite an important industry.

At Stockton, the county-seat, manufacturing is extensively engaged in, and a number of agricultural machinery factories are working to their utmost capacity.

COMPLETE WORKING MODEL of D. Young's Combined Harvester and Thresher, manufactured by D. Young, at Stockton.

With this machine, which is worked with four men and twenty horses, using a 16-foot sickle, the grain on forty acres

is cut, threshed and sacked in ten hours. These machines have sickles from sixteen to twenty feet long. The grain comes from the machine throughly threshed and cleaned. A full printed description of the machine and photographs of it in motion are in the exhibit. The photographs of three other styles of combined harvesters are in the exhibit.

BUHACH, California Universal Insect Exterminator, from the Buhach Producing and Manufacturing Co., Stockton, [I. L. Lyons & Co., Agents, New Orleans].

Specimens of the seeds and flowers of the plants from which made [by simply grinding the blossoms], the Pyrethreum Cineriæfolium, also insuflators for distributing powder. [This powder, which is an important product of California, has been proven of the greatest value in destroying insects and is highly recommended by prominent entomologists].

Two Frames of Photographic Views of Stockton [the county seat] and vicinity, from the gallery of J. Pitcher Spooner.

Exhibit of the celebrated H. H. H. Horse Medicine D. D. T. 1868, made by H. H. Moore, Stockton.

Exhibit of El Pinal Vineyard, Geo. West & Co., Stockton, Port Wine, Frontignan Wine and Brandy.

Map of County of San Joaquin, 1883, contributed by Board of Trade, Stockton.

Map of City of Stockton and Vicinity, 1879, contributed by Board of Trade, Stockton.

SPECIMENS OF THRESHED GRAIN.

White Australian Wheat, raised by J. Nevens, near Stockton, 22 bushels per acre, black soil.

Propo Wheat, raised by F. D. Curtis, 1½ miles north of Stockton; soil, river deposit.

Chili Wheat, raised by E. Miller, 2½ miles north of Stockton; yield, 45 bushels per acre.

Defiance Wheat, raised by Dr. C. Gratten, 4 miles northeast of Stockton; yield, 25 bushels per acre. [From Shippee Harvester].

Chili Wheat, raised by Frank Davis, 6 miles northeast of Stockton; yield, 30 bushels per acre; black soil.

White Australian Wheat, [summer fallow], raised by P. Christensen, 16 miles northeast of Stockton; yield, 25 bushels per acre.

White Australian Wheat, [summer fallow], raised by D. A. Learned, 1½ miles east of Stockton; yield, 30 bushels per acre; soil, black adobe.

Nonpareil Wheat, raised by Mr. Walrod, 8 miles east of Stockton; 25 bushels per acre; black soil.

White Australian Wheat, raised by Thos. S. Retcham, 10 miles east of Stockton; yield, 30 bushels per acre.

Barley, raised by Thos. S. Retcham, 10 miles east of Stockton; soil, loamy.

White Australian Wheat, raised by B. Pinkney, 2½ miles southeast of Stockton; yield, 25 bushels per acre; soil, black adobe.

White Australian Wheat, raised by T. J. Pope, 6 miles southeast of Stockton; yield, 48 bushels per acre; black sandy soil.

Chili Wheat [winter sown], raised by Jas. Carter, 12 miles southeast of Stockton; 20 bushels per acre; sandy soil.

Rye, raised by Jas. Carter, 12 miles southeast of Stockton; soil, sandy.

White Australian Wheat, raised by J. D. Huffman, 3 miles from Lodi, San Joaquin county; yield, 30¼ bushels per acre.

Pride of Butte Wheat, raised by R. Franklin, 6 miles west of Lodi; yield, 48 bushels per acre; sandy loam soil.

Propo Wheat, raised by Geo. Treadway, 7 miles southwest of Lodi.

Live Oak Club Wheat, raised by Mr. Childs 1¼ miles east of Acampo; yield, 30 bushels per acre; soil sandy.

Propo Wheat, raised near Milton.

Wheat, raised by J. R. Herry, Farmington, 25 bushels per acre.

White Australian Wheat, raised by Mr. Milton, near Farmington; soil, loam.

Snowflake Wheat, raised by H. S. Sargent, 3 miles northwest of Waterloo; yield, 25 bushels per acre; soil, loam.

White Australian Wheat, raised by Andrew Meyer, 2 miles north of Lathrop; soil, sandy.

White Australian Wheat, raised by Henry Moore, ½ mile north of Lathrop; yield, 18 bushels per acre.

Barley, raised near Banta.

Wheat, raised near Banta.

Egyptian Corn, [threshed], raised by E. J. Pickings, Lodi.

Barley, raised by D. Byrnes, Tracy.

Wheat, raised by D. S. Todd, Tracy.

Wheat, raised by W. Sider, west side San Joaquin river; yield, 20 bushels per acre; soil, loam.

Sonora Wheat, [winter sown], raised by W. Sider, west side San Joaquin river; soil, loam.

Wheat, [sheaf], raised by L. R. Davis, near Stockton.
Combines both strength and color. Makes finest flower.

White Australian Wheat, raised by Mr. Alling, 7 miles southeast of Stockton; 25 bushels per acre.

Club Wheat, [sheaf], raised by Mr. Alling, 7 miles southeast of Stockton.

White Australian Wheat, [summer fallow, sheaf], raised by T. S. Shaw, 8 miles north of Stockton ; yield, 25 bushels.
White Australian Wheat, [sheaf], raised by W. Kuhl, near Stockton; yield, 25 bushels per acre.
Salt Lake Club Wheat, [sheaf], raised by E. S. Beecher, 5 miles east of Stockton; yield, 25 bushels per acre.
White Australian Wheat, [sheaf], raised by J. D. Huffman, Lodi; yield, 30¼ bushels per acre.
Egyptian Corn, [stalks], raised by C. A. Stowe, Stockton.
White Egyptian Corn, [stalks], raised N. T. Root.
White Egyptian Corn, [stalks], raised by E. H. Pickens, near Lodi; dry sandy soil, no irrigation.
White Egyptian Corn, [stalks], raised by L. Wheeler, Lodi, with irrigation.
Field Corn, [stalks], raised by H. L. Clark, near Lodi.
Alfalfa bundle, raised by H. D. Pepper. fourth crop.
Sorghum, (Chocolate Corn), raised by Mr Knight, Lodi. Sandy soil. Raised without irrigation.
Sorghum, raised by C. A. Stowe, Stocton.
Field Corn, raised by J. D. Huffman, near Lodi. Dry sandy soil. No irrigation.
Broom Corn, raised by Chas. Stowe, near Stocton.
Tule, (bundle), from San Joaquin River.
Pride of Butte, (sheaf), raised by R. Franklin, 4 miles west of Woodbridge. Yield, 48 bush. per acre.
Corn, (stalks), raised by J. Scomp, near Acampo.
Corn, (stalks), raised by S. Woodruff, Lodi.

SAN LUIS OBISPO COUNTY.

Lies on the west coast of California, between latitude 35 and 36 degrees north. The distance from San Francisco by steamer, to Port Harford is 201 miles ; and from the latter place by rail, it is nine miles to the town of San Luis Obispo. It contains 2,022,400 acres, 481,337, of which are covered by Mexican grant titles, and 1,541,162 acres are United States Government titles. The county lies between the Coast Range Mountains and the Pacific Ocean, and is divided by the Santa Lucia Range into two unequal parts, about one-third lying west of this range, and two-thirds east, and both parallel with the ocean in a northeasterly and southwesterly direction.

The mildness and remarkable salubrity of the climate of San Luis Obispo has greatly benefited large numbers of invalids afflicted with pulmonary and other diseases. The temperature is nearly uniform, the difference, or range, being not over fifteen degrees throughout the year, and the average annual rainfall eighteen inches. The rainy season generally commences about the 15th. of November, and extends to about the 1st. of May, with long intervals of balmy, spring-like weather. Irrigation is not required in this part of the county, and abundant crops of corn are raised in the valleys, with but little cultivation.

The valley bottom lands cannot be surpassed. One hundred bushels of barley and sixty bushels of wheat have been raised. But there are yet large areas of rich valley lands which remain untouched by the plow, and used soley for grazing purposes.

All the fruits of the temperate zone, and some semi-tropical varieties are successfully cultivated in the valleys lying close to the western slope of the Santa Lucia Range. All kinds of grapes grow to perfection, and the olive, apricot, plum and fig trees yield their fruits in great abundance.

Pink Beans, contributed by J. H. Thomas, San Francisco.

Booth's Sure Death Squirrel Poison, manufactured by A. R. Booth, San Luis Obispo.

SAN MATEO COUNTY

Occupies most of the peninsula that separates the ocean from San Francisco Bay, and is bounded on the north by San Francisco. It has an area of 292,500 acres. The Gabilan Sierra Moreno, or Santa Cruz Mountains, traverse the entire length, and occupy nearly one half of its surface. On the east, or bay side of the county, is one of the finest little valleys in the State. On the ocean side, there are also from 17,000 to 20,000 acres of level land. Besides these there are several other valleys. This county is only about five miles wide at its north end, and some eighteen at the southern end, with a length of forty two miles. San Mateo is exceedingly well watered by numerous small springs, most of which have considerable fine farming lands along their courses through the mountains, often opening into considerable sized valleys. As is well known, San Francisco draws her water supply from San Mateo. The Spring Valley Water Company has large reservoirs and works along the entire length of the mountains. The climate is quite as varied and diversified as the surface. The county has every variety of soil, the most of which is very fertile. The productions are barley, hay, oats, wheat, potatoes, cabbage, and all root crops. Shipping facilities are excellent. During the last twenty years, the successful business men of San Francisco have built beautiful country residences along the line of the S. P. Railroad which extends the entire length of the county.

Gilbert Oats, (sheaf and threshed), raised by F. C. Gilbert, 14 miles Southwest of Redwood City, San Mateo County. From 15 pounds of seed, the yield the first year was 1,900 pounds, Oats; 2nd. year, crop 25,000 lbs., 3rd. year's crop 350,000 lbs. The last two years have been poor years. These oats yield from two to three times as heavy as other oats. They will grow on any soil.

Native Grass from Ranch of F. C. Gilbert, 14 miles sout west of Redwood City.

Patent Reversible Plow, made by R. I. Knapp, Half Moo Bay. This plow is an exceedingly ingenious, useful an practical invention.

Gilbert Oats, (threshed), raised by F. C. Gilbert, 14 mile southwest of Redwood City,

Redwood Fence Post and Redwood Rails, from T. Gu Phelps, Belmont.

This post was put in the ground 33 years ago and it present condition proves the durability of the wood. Th rails were put in place at the same time. It will be seen tha the weather has not affected them. This proves the value o red-wood for shingles in addition to the fact of its non-com bustibility.

SANTA BARBARA COUNTY.

Santa Barbara County is in the form of an irregular parallelogram, seventy miles long, east and west, and thirty-five miles wide, north and south. It is surrounded by the sea and the mountains, those two great regenerators of the atmosphere. It possesses a variety of climates, according to the elevation, proximity to the sea, shelter from trade winds, amount of rainfall, etc. The Santa Ynez range of mountains extends from the west to the east line of the county, and lies parallel with and only a few miles north of the southern coast. The long and narrow valley lying between this range aud the sea—commonly called the Santa Barbara valley—is fifty miles long and from one to five miles wide. This valley is protected from the north and northwest winds by the Santa Ynez range. On the south it is protected by the range of channel islands—about twenty-five miles distant from the shore—rising to a height of 2,500 or 3,000 feet. Here snow NEVER falls, and frost is seldom seen, except in the lowest grounds. The temperature of January averages 53°, and of July 68°—only 15° difference. The winter months average 54°, the spring 60°, the summer 68°, and the autumn months 63° The average difference between the temperature of the warmest part of the day and the coolest part of the night is only 12°. This uniformity of the temperature is due to the equability of the vast Pacific. The charm of California climate depends upon the equanimity of the peaceful Pacific.

This country is exceedingly rich in all agricultural and horticultural productions. Its merits of salubrious climate are fully equalled by its productive resources. Space forbids enumerating them. The county display, though hurriedly gathered under adverse circumstances, proclaims the wealth of seeds' grains, vegetables, fruits, stock, honey, olive oil, wine, etc that Santa Barbara possesses.

COLLECTION OF ETCHINGS OF THE FRANCISCAN MISSION OF CALIFORNIA, by H. Chapman Ford, Carpinteria.

This historically and artistically valuable collection comprises views of the following old missions of California:

San Diego.
San Luis Rey de Francia.
San Juan Capistrano.
San Gabriel.
San Fernando.
San Buenaventura.
Santa Barbara (2 views).
Santa Ynez.
La Purissinia Conception (2 views).
San Luis Obispo de Tolozo.
San Miguel.
San Antonio de Padua,
Na Sa de la Soledad.
San Juan Bantista.
San Carlos de Monterey or Carmel (2 views).
Santa Cruz.
Santa Clara.
San Jose.
Dolores.
San Francisco de Solano.
Pala (Mission Station attached to San Luis Rey).

Collection of Photographic Views of Santa Barbara and surroundings, from the Studio of W. J. Rea, Santa Barbara.

Rundell's Patent Camp Bed and chair,

It is the best ever offered to the public. It is compact, easy to transport, and comfortable to sleep or sit on. It is a bed at night and a chair by day,

PURE OLIVE OIL, manufactured by Ellwood Cooper, Santa Barbara, Cal.

"The only Unadulterated Olive Oil to be had in America. No heat used either in expressing or clarifying. Every bottle warranted not to become rancid."

"Treatise on Olive Culture," by Ellwood Cooper, Santa Barbara.

COLLECTION OF SEEDS, from P. C. Higgins, Carpinteria.

Marigold,	Peach Pits,	White Oats,
Larkspur,	Petunia,	Sweet Pea,
Gladiola,	Mountain Lilac,	Snap Dragon,
Lupine,	Geranium,	Tobacco,
Burr Clover,	Evergreen Millett,	Watermelon,
Wild Oats.	Acacia,	Flax Seed,
Coast Barley,	Nut Meg Musk Melon,	
Navy Beans,	Lima Beans,	Small White Beans,
Male White Beans.		

Ink Made from Elder Berry, P. C. Higgins, Carpinteria.
Mucilage Made from Apricot Seed, P. C. Higgins, Carpinteria.

Seal Oil, Lucien Higgins, Carpinteria.

Collection of Seeds from J. Sexton, Goleta.

Hops,	Crytlica Armeta,	Barley,
Mastura Currant,	Castor Bean,	Dates.

Palm Fruit, Mrs. Sexton, Goleta.

Collection of Seeds and Grains from the Horticultural Society at Santa Barbara.

Millet,	Timothy,
Pepper Berries,	California White Clover.
Danver's Onion.	Early Blood Beet.
White Portugal Onion.	Blood Turnip Beet.
Alfalfa.	Dry Soil Grasses,

Collection of Seeds and Grain, John Spence, Santa Barbara.

Poppy, *Stipa Pennata*, Mignonette, Double head poppy.
Fennel, *Eucalyptus Globulus*.

Collection of Seeds, E. Pinney.
Red Clover, Fennel, Timothy, Nasturtian.

Parsley Seed, M. Dunbar, Glennlock.
Portulacca Seed, Ray Rogers.
Buckwheat Seed, Chas. Wood, Carpinteria.
Acacia Seed, W. D. Pinney.
Black Mustard Seed, S. L. James, Arroyo Burro.
Heliotrope Seed, Miss Nellie Woods.
Verbena Seed, Miss Nellie Woods.
English Mustard Seed, R. Carnner, Santa Rita.
Moreton Bay Fig Seed, Mrs. Ashley, Carpinteria.
White Australian Wheat. F. W. Welborn.
Goobers Peanuts, Jerry Forney, Santa Barbara.
Flax Seed, J. Bailard.
Sorghum Seed, W. Imbau, Santa Barbara.
Small White Beans, O. P. Cook, Goleta.
French Capers, Mrs. K. Stevens, Monticeto.
Flax-Seed, W. W. Hollister, Monticeto.
White Flat Dutch Turnip Seed.
Acacia Odorato Seed, H. C. Ford, Santa Barbara.
Buckwheat Seed, Dr. W. W. Finch, Carpintaria, Santa Barbara.
Chili Bayou Beans, Jno. Lewis, Carpinteria.
Lima Beans, L. B. Hogue, Carpinteria.
Muskmelon Seed, L. B. Hogue, Carpinteria.

COLLECTIONS OF CORN from Horticultural Society, Santa Barbara County.
White Flint Corn.
Hominy Corn.
White Dried Corn.
Speckled Pop Corn.
White Field Corn.
Sunflower Seed.
Large Early Corn.
Watermellon.
Sweet Rice Pop Corn, P. C. Higgins, Carpinteria.
Yellow Dent Corn, P. C. Higgins, Carpinteria.
Rice Pop Corn, P. C. Higgins, Carpinteria.
Cabbage Seed, P. C. Higgins, Carpinteria.
Wild Capers, P. C. Higgins, Carpinteria.
King Phillip's Corn, H. Martin, Carpinteria.
Rice Pop Corn, H. Martin, Carpinteria.
Mixed Pop Corn, Ray Rogers, Carpinteria.
Sweet Corn, Ray Rogers, Carpinteria.
Sweet Corn, J. Sexton, Goleta.
Cypress Seed, J. Sexton, Goleta.
Lathyrus Seed, J. Sexton, Goleta.

Dracawa Australian, H. C. Ford, Carpinteria.

COLLECTION OF DRIED FRUITS AND NUTS, from W. W. Hollister, Santa Barbara.
Native Walnuts,
English Walnuts,
Almonds,
Apples,
Prunes,
Pears,

SOILS, from W. W. Hollister, Santa Barbara.
Castle Rock Sand,
Valley Soil,
Hill Side Soil.

SOILS from Mrs. Ashley's Place, Carpinteria, Santa Barbara county.
Soil Eight feet from surface.
Soil from Indian Ranch.

COLLECTION OF SOILS from P. C Higgins, Carpinteria,
Red Adobe Soil, Foot Hills,
Beet Soil, Rincon Ranch,
Draft Soil, Rincon Ranch,
Black adobe Soil, Rincon Ranch,
Post Pliocene Sand,

Sandy Valley Soil, O. P. Cook, Goleta,
Foot Hill Soil, E. H. Pierce, Carpinteria,
Adobe Valley Soil, O. P. Cook, Carpinteria,

Soil from Nursery, John Spencer, Santa Barbara,
Valley Soil, W. D. Penney, Carpinteria,
Valley Soil, E. H. Pierce, Carpinteria,
Light Adobe Soil and Watermelon Soil,
Soil from J. A. Blood, Carpinteria,
Alkali Soil, C. Ryotwin, Carpinteria,

SAMPLES SHOWING BRANCH GROWTH OF TREES in one year' in Santa Barbara county,

Cherry Plum, P. C. Higgins, Carpinteria,
English Walnut, R. Heath, Carpinteria,
California Elder, H. C. Ford, Carpinteria,
Plum, L. B. Caldwell, Carpinteria,
Prune, 5 months from bud, E. Harper, Santa Barbara City.
Pear, L. B. Caldwell, Carpinteria,
Bartlett Pear, L. B. Caldwell, Carpinteria,
California Sycamore, H. C. Ford, Carpinteria,
California Alder, H. C Ford, Carpinteria,
Cork Bark Elm, P. C. Higgins, Carpinteria,
Canary Island Prune, P. C. Higgins, Carpinteria,
Willow, P. C. Higgins, Carpinteria,
Australian Prune, R. Heath, Carpinteria,
Lemon, R. Heath, Carpinteria,
English Walnut, R. Heath, Carpinteria,
French Prune, E. Harper, Santa Barbara City,
Victoria Nectarine, E. Harper, Santa Barbara City,
Black Turkey Fig,
Olive, (one season's growth without irrigation),

Petite De Ager Prune, L. B. Hogue, Carpinteria,

Olive Oils, (first and second pressing), Ellwood Cooper, Santa Barbara,

English Walnuts, Ellwood Cooper, Santa Barbara,

Almonds, Ellwood Cooper, Santa Barbara,

JELLIES, by Mrs, Reysere,
Orange Jelly,
Apricot Jelly,
Apple Jelly,
Lemon Jelly,

Cherry Plum Jelly and Orange Marmalade, by Mrs. Sexton, Goleta,

Orange Marmalade, by Mrs, Spencer, Santa Barbara,
Ione Grape Jelly, by Mrs. Benwick, Santa Barbara,

White Sage Honey, by N. Fallet, Santa Barbara,
White Sage Honey. A. Garland & Son, Santa Barbara,
Honey, First Class. J. Archer, Santa Barbara,

Mammoth Bee Hive, from which was procured, in 1884, 77(
pounds extracted and 60 pounds comb honey, from J.
Archer, Santa Barbara.

Collection of Wines from J. E. Goux, Santa Barbara.
California Claret, 1881-83.
Superior Old Port.
Mission Grape White Wine.

English Walnuts, J. Sexton, Goleta.
Almonds, J. Sexton, Goleta.

"Forest Culture of the Eucalyptus." By Elwood Cooper, President Santa Barbara College, Santa Barbara.

This is the only reliable work on the Blue Gum published in the United States.

The Blue Gum is known in many States as the fever tree rendering localities healthy, in which to sleep a single night was almost certain death. It is useful in all the mechanical arts and all the industrial purposes of life. The tree can be grown in a few years.

Palm Leaf Hat from Washingtonian Filifera.
Specimens Braiding from Washingtonian Filifera.
Palm Leaf Fan from Washingtonian Filifera.
Raw Material for Palm-Work from Washingtonian Filifera, contributed by Mrs. Sexton, Goleta.

Case containing 58 varieties of Beans, P. C. Higgins, Carpinteria.

SANTA CLARA COUNTY.

This is one of the most prominent counties in all California in agriculture, horticulture, climate and beauty of scenery. It has close connection with San Francico by three lines of railroads; also. water communication via the southern arm of San Francisco Bay.

The topographical features of the county are the two ranges of mountains on either side, with the large valley of Santa Clara between, a level, fertile plain, running down from the northwest to the southeast the entire length of the county; it is about 54 miles in length, and from 12 to 18 miles wide.

The county has an area of 623,728 acres.

The most interesting feature of the valley is the flowing wells. Artesian water is obtained in the country around the head of the bay, and extending southward to and including the city of San Jose; in fact, to the extreme southern portion of the county. In the vicinity of San Felipe large flowing wells are easily obtained, varying in the different localities from 50 to 350 feet.

No better soil is found in the State than Santa Clara Valley possesses. It varies, in some places being a rich adobe, many feet in depth, in others a black sandy loam, and in others a reddish gravelly loam with clay mixed with decomposed rock. This latter is regarded as the natural soil for the grape, the choicest and the tenderest foreign varieties of which grow here to perfection. On the hillsides the soil is mostly of a gravelly and clay nature, making the best of orchard and vineyard land, where the almond, pear, apple and many other varieties of fruit are successfully raised. Many small valleys are scattered through the mountains on either side of the Santa Clara Valley.

There is an abundance of live and white oak, cottonwood and several other varieties scattered through the valley. In the mountains, on Mt. Diablo range, there is some pine, while on the Santa Cruz range there is considerable redwood.

LARGE EXHIBIT OF FRESH FRUITS, including apples, pears persimmons, etc., John Rock, San Jose.

LARGE EXHIBIT OF FRESH FRUITS from the Santa Cruz Mountains, including apples, pears, etc., D. C. Feely. Patchen

COLLECTION OF FRUITS Preserved by the San Jose Packing Company. San Jose, Cal.

Plum Preserves,
Gooseberry Preserves,
Plum Tomato Preserves,
Grape Preserves,
Quince Preserves,
Peach Preserves.
Pear Preserves,
Dessert Bartlett Pears,
Orange Preserves,
Apple Jelly,
Lemon Jelly.
Apricot Preserves,
Currant Preserves,
Nectarine Preserves,
Raspberry Preserves,
Cherry Preserves,
Strawberry Preserves.
Almond Preserves,
Dessert Apricots,
Orange Jelly,
Plum Jelly,

TYPICAL COLLECTION OF FRUITS preserved in Solution, John Rock, San Jose.

Decaisne Plum,
Damson Plum,
Washington Plum,
Quackenboss Plum,
Jefferson Plum,
Date de Hongrie Prune,
Silver Prune,
Prune d'Ayen Prune,
Hartoer's Yellow Prune,
Czar Plum,
Royal Hatire Plum,
Shropshire Damson Plum.
Coe's Golden Drop Plum,
General Hand Plum,
Italian Prune,
Barry Prune,
Hungarian Prune,
German Prune,
Houghton's Seedling Gooseberries,
Downing's Gooseberries,
Blenheim Apricot,
Large Early Mont Gamet Apricot,
Royal Apricot,
Chinese Plum,
St. Ambrose's Apricot,
Hemskirke Apricot,
Moorpark Apricot.

S. F. CHAPIN, ORLINDA ORCHARDS, San Jose, Fruit Preserved in Glass.

Golden Egg Plum,
Bartlett Pears,
Moorpark Apricots.

GENERAL H. M. NAGLEE, Santa Clara.

Riesling Grape Brandy of 1870.
Trousseau Wine.
Chromo-Lithograph of Charboneau (The Naglee Brandy Grape.)

QUITO OLIVE FARM, Santa Clara (C. W. Coburn & Co. Agents.)

Pure Olive Oil.
Branch of Olive Tree.

PROSPECT VINEYARD CUPERTINO, J. C. Merithew, Santa Clara.
Old Sherry Wine.
Old California Grape Brandy.
Old California Muscatel.
Old California Port Wine.

G. M. JARVIS, San Jose.
Port Wine.

KING & MORSE, Santa Clara, Garden Seeds.
Philadelphia Butter Lettuce.
Early Curley Simpson Lettuce.
Black Seed Tennis Ball Lettuce.
Boston Curled Lettuce.
Prize Head Lettuce.
Stone Mason Marble Head Lettuce.
Premium Cabbage Lettuce.
Hanson Lettuce.
Salamander Lettuce.
Yellow Seed Butter Lettuce.
Silesian Curled Lettuce.
Red Westerfield Onion.
White Globe Onion.
Yellow Danvers Onion.
Yellow Globe Danvers Onion.
White Portugal Onion.
Extra Early Red Onion.
California Extra Early Onion.
Improved Hollow Crown Parsnip.
Long Scarlet Radish.
Scarlet Turnip Radish.
Danvers Half Long Carrot.
Long Orange Carrot
White Belgian Carrot.
Henderson's Half Dwarf Celery.
Boston Market Celery.
White Walnut Celery.
Long Blood Beet.
Prickly Spinach.
Premium Flat Dutch Cabbage.
Excelsior Flat Dutch Cabbage.
Early Jersey Wakefield Cabbage.

TYPICAL COLLECTION OF FRUITS, preserved in chemical solution from D. C. Feely, Patchen.
Verdal Grape. Black Morocco Grape (second crop).
German Prune Coe's Golden Drop Plum.
French Prune.

Sample Soil D. C. Feely's Farm.
(The fruits from Mr. Feely's farm in the Santa Cruz

Mountains are grown at an elevation of 1200 feet.)

H. Tillotson, Berryessa.
Sheaf of White Oak.
Sheaf of Wheat.

A. R. Woodhams, Santa Clara.
Sheaf of Common Barley.

J. Knowles, Santa Clara.
Sheaf of Rye.

I. A. Wilcox, Santa Clara.
Branch of California Wild Coffee,

Bird's Eye View of Santa Clara College.

Map of Santa Clara County, compiled for J. A. Clayton.

Collection of Dried Fruits from A. C. Penniman, San Jose.

Angora Fleeces and Mohair, showing length of wool, C. P. Bailey, San Jose.

Paintings of California Wild Flowers in Oil, on panels.

"Pilsner Lager Beer," manufactured by the Fredericksburg Brewing Company, San Jose.
(This beer is highly commended by all competent judges).

Pressed Brick. T. W. Peterson & Co., San Jose.

Photograph, by C. E. Watkins, of Baldwin & Wilder's Dairy, Santa Cruz.

COLLECTION OF WOODS from the Santa Cruz Mountains, collected by D. C. Feely, Patchen.

Navy Oak,
Valparaiso Oak,
Chestnut or Tan Bark Oak,
Small Leaf Live Oak,
Large Leaf Live Oak,
White Oak,
Black Oak,
Burr Oak,
Shrub Oak,
Red Maple,
White Maple,
Bitter Cottonwood,
Alder,
Sycamore,
Willow,
White Willow,
Bull Pine,
Wild Nutmeg,
Buckeye.
Yellow Laurel,
Redwood,
Gooseberry,
Greese Wood,
Wild Raspberry,
White Maple,
Yerba Santa,
Wild Rose,
Brown Bush,
Redwood (150 ft. from stump),
Yew,
Snow Drop,
Woodbine,
Chemisal,
Sage,
Wild Lilac,
Wild Holly,
Elder,
Hazelnut,
Wild Plum,
Monterey Cypress,

White Laurel,
Madrone,
Red Mahogany,
Yellow Mahogany,
Fir,
Box Bush,
Wild Cherry,
Coffee Tree,
Curious specimens of growth of Madrone.

COLLECTION OF POLISHED WOODS from Santa Cruz Mountains, collected by D. C. Feely, Patchen.

Maple Board,
Eucalyptus Board,
Laurel Board,
Live Oak.
Laurel Knot Board,
Madrone (Cross section),
Birds' Eye Redwood,
Madrone Knot,
Wavy Redwood,
Wild Holly,
Laurel,
Madrone Root,
Laurel Knot,
Manzanito.
Madrone Planks,
Burl Redwood,
Curly Redwood,

Polished Redwood Burl from W. E. Miller, Santa Cruz.

COLLECTIONS OF WOODS from Santa Clara County, collected by I. A. Wilcox, Santa Clara.

Mountain Mahogany,
California Wild Coffee,
California Laurel,
Madrone,
Ceonothus,
Wild Apple,
California Maple,
Bearberry,
Chemisal,
California Dog Wood,
Mexican Wild,
Tyone or California Box,
Curly Redwood.
Post Oak,
Live Oak,
White Oak,
Unknown Oak.
Buckskin Wood,
Manzanito,
Section of Olive Tree,
Section of Pear Tree,
Redwood Burl,
Redwood Knot,
Wavy Redwood,
Tan Bark,

Section of Blue Gum (Eucalyptus Globulus) from tree 5 years old, grown on A. Habiet's place, Santa Clara.

Section of limb of Pepper Tree.
Locust, T. H. Lane, Santa Clara.
Curly Redwood, A. A. Withron, Santa Clara.

Portion of Poplar Stump, cut off at the surface and containing a horse-shoe, around which the wood had grown.

COLLECTION OF GROWING TREES, native to California, and those which have been introduced into the State, including evergreens, palms, bamboos, etc., John Rock, San Jose.

SANTA CRUZ COUNTY

Lies on the east coast between latitude 36.30 and 37.20 degrees north, nearly south of San Francisco, distance by rail 80 miles, steamer 78 miles. Santa Cruz is one of the smaller counties of the State, embracing 276,400 acres, about one-third of which is fertile valley, plateau and rolling hill land, and fully 40,000 acres of rich bottom land. The county is about 36 miles long from a northeasterly to a southwesterly direction, and nearly 15 miles wide. It has about 50 miles of coast along the ocean and Monterey Bay, which bounds it on the west and southwest.

The country facing south from the summit of the Santa Cruz Mountains, which forms the northern and eastern boundary, makes an amphitheatre of almost perfect aspect facing the Bay of Monterey on the south, and protected by high wooded hills on the east and north, the highest point, Loma Prieta, is some 4000 feet above sea level.

Pajaro Valley, one of the most charming and productive valleys in all California. is in the southeastern portion of the county. This valley is about 15 miles long and from 6 to 10 wide. The soil is of the richest garden land, seemingly inexhaustible. The valley is situated close to the sea, with the S. P. R. R. running through it, and it is made up of beautiful fields, fine orchards, deep alluvial bottom lands and fertile hillsides, winding streams fringed with trees, and here and there several beautiful lakelets, a range of wood covered mountains on the northeast, the dancing surf of Monterey Bay on the southwest.

The redwood in this county is abundant, the lower cuts are of exceeding beauty for interior finish.

LARGE EXHIBIT OF FRESH FRUITS, APPLES, ETC., from the Santa Cruz Mountains, contributed by the Fruit Growers of the Santa Cruz Mountains.

Patent Apple Box for Packing Apples, made by S. & M. E Martinelli, Watsonville.

Bayo Beans, Geo. D. Rogers, Pajaro Valley.
String Beans. do do
Red Beans. do do
Small White Beans. do do
Superior Oats, N. Struve, Watsonville.
Australian Wheat. do do
Bald Barley, L. V. Willitts, Watsonville.
Barley, O. Thorton, Watsonville.
Allison Wheat, A. E De Sosa.
Royal Australian Wheat, W. W. Waterman.
Oregon Oats, Joe Rapidds.
Black Oats, D. Binsacca & Co., Watsonville.

Wheat (1883) raised by J. S. Mattison, Santa Cruz County, 56 bushels per acre. (Land worked 29 years.)
Wheat (1884), 28 bushels per acre. (Land worked 30 years.)

SHASTA COUNTY.

The great Sacramento Valley ends in this county. It has an area of 2,410,000 acres, and the Coast Range and Sierra Nevada Mountains meet within her boarders. The consequence is an immense number of canons, gorges, valleys and ravines, through which the upper Sacramento or Pitt and McCloud Rivers rush, forming a junction with the Sacramento, which takes its rise in a large spring at the base of Mount Shasta, in Siskiyou, about 90 miles above this junction. Shasta has large forests of valuable sugar and yellow pine saw timber, besides the oak and other timber in the valleys, valuable for fuel only. In the southern end of the county, at the head of the Sacramento Valley, are the principal agricultural lands. Further north is Shasta Valley, an extensive plain, which is occupied chiefly as a range for cattle and sheep. Besides these there are a large number of small valleys, ranging from a few acres to several hundred.

However, Shasta's great wealth is in her mineral resources, which are scarcely yet prospected, although her gold mines have yielded millions of dollars since the days of '49.

ROSE OF PERU GRAPE VINE. The growth from one bud in one season, having a combined length of limbs of 193 feet. Grown by F. W. Fish, ten miles from Redding.

SOLANO COUNTY.

Solano County has an area of 600,000 acres, of which two thirds are valley land and one-third foot-hill land.

The valley lands extend from the Sacramento River to the foot hills of the Coast Range. They have rich, alluvial soils, and produce abundant crops of grain, vegetables and fruits. The foot-hills are in the western part of the county, and have light loamy soils.

The Sacramento River washes a portion of the southern part of the county, and the Bay of San Francisco the rest of the southern portion.

The climate of the southeastern part of the county is that of the Sacramento Valley. The southwestern portion has the climate of the San Francisco Bay regon.

Three years since a sudden discovery was made that one of the finest fruit regions in the State, and hence in all the world, lay within three hours' railroad run from San Francisco. This region commences at Vacaville, and some six miles west and to the north of Elmira, (a station on the California and Pacific Railroad), and extends some fourteen miles in a generally northerly direction to Winters, in Yolo County.

COLLECTION OF NINETY-SIX VARIETIES OF ALMONDS. (No duplicates). A. T. Hatch, Suisun:

"Boss Brand," home canned fruit put up for family use.

Apricots Dr. W. H. Austin, Vacaville.

"Orchard Brand," fruits preserved in glass.

Gates' Cling Peach, J. W. Gates, Vacaville.
Orange Cling Peach, J. W. Gates. Vacaville.
McKievitt Cling Peach, J. W. Gates, Vacaville.
Bartlett Pear, J. W. Gates, Vacaville.
Lemon Cling Peach, J. W. Gates, Vacaville.
Orange Cling Peach, J. W. Gates, Vacaville.
Grover Cleveland Peach, J. W. Gates, Vacaville.
Mother Porter Peach, J. W. Gates, Vacaville.
Royal Apricots, J. W. Gates, Vacaville.

(It is interesting to note that nearly all the peaches from Mr. Gates' farm in this collection are California seedlings. Their size and beautiful appearance deserve a special study.)

Petite Prunes, W. J. Pleasants, Vacaville.
Royal Apricots, W. J. Pleasants, Vacaville.
Olives, W. J. Pleasants, Vacaville.
Fellenberg Prunes, W. J. Pleasants, Vacaville.
TYPICAL COLLECTION OF FRUITS preserved in chemical solution:
Peaches.
Quince, C. Frarer, Elmira.
Snow White Cling Peach, B. B. Hacket, Winters.
Second Crop McKievitt White Cling, peach raised near Vacaville.
Salway Yellow Tree Stone Peach, C. Farurer, Elmira.
Sundried Peaches, W. J. Pleasants, Vacaville.
Snow White Cling Peach, G. W. Hincley, Winters.
Salway Yellow Freestone Peach, G. W. Hincley, Winters.
McKievitt's Cling Peach (first crop).
McKievitt's Cling Peach (second crop, same season).
Violet Cornichon Grapes, F. H. Buck, Vacaville.
White Heath Cling Peach, H. & W. Brick, Vacaville.
Eastern Burre Pears, A. T. Hatch, Suisun.

Sun-dried Peaches, J. M. Basford, Jr., Vacaville.
Prunes. do do
Sun-dried Prunes, W. J. Pleasants, Vacaville.

California Native Walnuts, F. H. Buck, Vacaville.
Royal Apricot Seed. do do

Chinese Chestnuts, J. R. Wolpkill.

Soil Sample, Batavia.

London Layers, Raisins, R. B. Blowers, Woodland.

Snowflake Wheat, from W. A. Newcum, Suisun.

Barley, raised in Suisun Valley, contributed W. A. Newcum, Suisun.

Canada Club Wheat, raised by John Whitman, 6 miles from Collinsville, contributed by W. A. Newcum. Stisun.

Wheat, raised by Wm. Gorden, Gorden Valley.

Oregon Club Wheat, raised by John Whitman, 6 miles from Collinsville; soil adobe.
Wheat, raised near Elmira.
Barley, raised near Elmira.
Wheat, raised by James Galbrath, Montezuma Hills.
Snowflake Wheat, raised by J. H. White, 3 miles from Collinsville; contributed by W. A. Newcum.

Canada Club Wheat. raised by J. H. White, 3 miles from Collinsville, Solano Co.
Snowflake Wheat, raised by T. Ambrose, 17 miles from Suisun.
Chili Wheat, raised by J. Leitheon, Suisun Valley.
Snowflake Wheat, raised by John Kierce, Montezuma Hills.
Suisun Valley Wheat, raised in Suisun Valley; contributed by W. A. Newcum, Suisun.
Wheat, raised by Henry Peters, 1¼ miles from Dixon; yield 35 bushels per acre.
Snowflake Wheat, raised by E. McGary, 1 mile east of Cordelia.
Club Wheat, raised by E. McGary, 1 mile east of Cordelia.
Wheat, raised by John Mayeo, ½ mile west of Dixon.
Large Yellow Corn (shelled), raised by G. H. Pangburn, 3 miles from Suisun, Solano Co.; contributed by W. A. Newcum.

SONOMA COUNTY.

The area of Sonoma County is 850,000 acres. The natural curiosities of Sonoma are remarkable, such as the world-famed Geysers. Litton Springs from another curiosity, where Seltzer water is obtained. White Sulphur Springs, Skagg's Springs, Mark West Springs, Alder Glen Springs, all have different medicinal qualities.

No more diversified soil can be found in any county than Sonoma possesses. Fruit and other crops thrive here. And no other county in California, with so much fine agricultural land, has such immense forests of timber. At Guerneville, 20 miles northwest of Santa Rosa, we come right into the heart of the redwood country. Here are found extensive saw mills, producing from 12,000,000 to 15,000,000 feet of redwood lumber annually.

COLLECTION OF THE PRODUCTIONS OF SONOMA COUNTY, GATHERED AND CONTRIBUTED BY THE POMONA GRANGE, SANTA ROSA:

This collection received a special gold medal at the California State Fair, and is the largest county collection shown at the North, Central and South American Exposition.

Hill Soil, Analy Township.
Grape Soil, Rincon Valley.
Soil, W. P. Warren, Alexander Valley.
Grain Land Soil, Big Valley,
Subsoil, Sebastapol Valley,
Fruit and Grain Soil, John Adams, Santa Rosa Valley,
Soil, Mrs. St. Clair, Big Plains,
Forestville Soil, Russian River Valley,
Soil, Santa Rosa Valley,
Soil, from Summit Farm, Bennett Valley,
Surface Soil, D. Litchfield. Sebastapol Valley,
Subsoil. D. Litchfield, Sebastapol Valley,
Subsoil, Santa Rosa Valley,
Forestville Soil, Green Valley,
Subsoil, J. Fritsch, Petaluma Valley,
Subsoil, Guy E. Grosse, Rincon Heights,
Adobe Soil, John Adams Santa Rosa Valley,

Vine land Soil, J. Fritsch, Petaluma Valley,
Soil, Sonoma Valley,
Soil, Guy E. Grosse, Rincon Heights,
Adobe Subsoil, Santa Rosa Valley,
Soil, Petaluma Valley,
Subsoil, Petaluma Valley,
Subsoil, Big Valley,
Soil, Two Rock Valley,
Adobe Soil, Santa Rosa Valley,
Guerneville Redwood Soil, Russian River,
Australian Wheat, C Parvian Petaluma,
White Chili Wheat, Edwin Haigh, Big Plains.
Australian Wheat, John Adams, Santa Rosa Valley,
Red Australian Wheat, W. B. Purvine, Two Rock Valley,
Australian Wheat, Richard Crane, Santa Rosa Valley,
White Australian Wheat, Mr. Peterson, Two Rock Valley,
Bay Wheat, Lewellen Hall, Russian River Valley,
White Chili Wheat, Edwin Haigh, Big Plains,
Smith Club Wheat, T. Kruse, Mark West Valley,
Red Australian Wheat. John Shearer, Petaluma Valley,
Club Wheat, Sam'l Hutchins, Los Guilicos,
Red Club Wheat, L. J. Hawkins, Santa Rosa Valley,
Chili Wheat. Sam'l Hutchins, Los Guilicos Valley,
Colonized Wheat, (New South Wales), Los Guilicos Valley,
White Club Wheat, John Ferguson, Alexander Valley,
Big White Club Wheat, E. Hamilton, Geyserville.
White Club Wheat, J. A. Barkum, Santa Rosa Valley,
White Australian Wheat, P. Carroll, Big Valley,
White Australian Wheat, Julius Ort, Santa Rosa Valley.
White Club Wheat, John Adams, Santa Rosa Valley,
Mixed Wheat, Mrs, F. Purrington, Green Valley,
Australian Wheat, J. Ort, Santa Rosa Valley,
White Australian Wheat, J. Linch, Petaluma Valley,
White Australian Wheat, Frank Webster, Santa Rosa Valley,
Australian Wheat, John Strong, Bennett Valley,
Propo Wheat, Sam'l Hutchinson, Los Guilico's Valley,
Propo Wheat, P. S. Sweny, Two Rock Valley,
White Club Wheat, J. L. Weeley, Healdsburg,
White Bay Wheat. H. M. Willson, Dry Creek Valley,
White Australian Wheat, C. S. Gibson, Petaluma Valley,
White Chili Wheat, C. H. Holmes, Knights Valley
White Club Wheat, John Buglor, Santa Rosa Valley,
Red Winter Wheat, L. J. Hawkins, Santa Rosa Vslley,
Chevalier Barley, John Buzlor, Santa Rosa Valley,
Barley, J. Fritsch, Petaluma Valley,
Barley, C. H. Holmes, Knights Valley,
Barley, J. Fritsch, Petaluma,
Barley, S. C. Storey, Bennett Valley,

Barley, D. S. Dickson, Petaluma, Valley,
Barley, Liew Allen Hall, Big Plains,
Barley, Sam'l Hutchinson, Los Guilicos Valley
Georgia Rust Pooof Oats, J. Laughlin, Sonoma Valley,
Black Oats, S. C. Storey, Bennett Valley,
Grey Oats, Page Bros., Santa Rosa Valley,
Russian White Oats, J. A. Laughlin, Healdsburg,
Cultivated Wild Oats, J. Q. Cowels, Two Rock Valley.
White Oats. J. C. Purvin, Two Rock Valley,
Australian Oats, Sam'l Hutchinson, Los Guilicos Valley,
Black Oats, P. C. Jones, Big Valley.
Animated Oats, L. J. Hawkins, Santa Rosa Valley,
White Oats, A. P. Martin. Two Rock Valley,
White Oats, Sam'l Hutchinson, Los Guilicos Valley,
White Oats, J. L. McClish, Russian River Valley,
Black Oats, W. P. Warner, Alexander Valley,
Black Oats, L. A. Hall, Big Plains,
White Oats, W. S. Buson, Alexander Valley,
White Oats, John Adams, Santa Rosa Valley,
White Oats, John Adams, Santa Rosa Valley,
Rye, T. S. Killman, Petaluma Valley
Rye, J. Stagon, Sonoma, Valley,
Buckwheat, raised by Mrs. Purrington, Sebastapol.
Buckwheat, D. Litchfield, Sebastapol,
Ruckwheat, J. C, Parvine, Two Rock Valley,
Buckwheat, John Adams, Santa Rosa Valley,
Alfalfa Seed, M. Jennings, Santa Rosa Valley,
Alfalfa Seed, J. Gregeon, Sebastapol Valley,
Alfalfa Seed, J. L. McClish, Russian River Valley,
Mesquit Grass Seed, J. Cnopuis, Green Valley,
Mesquit Grass Seed, Mrs. Ruth Barnes, Santa Rosa Valley,
Australian Rye Grass, James Gannon, Sebastapol Valley,
Burr Clover Seed. M. Litchfield, Sebastapol Valley,
Millet Seed, L. J. Hawkins, Santa Rosa Valley,
Golden Millet Seed, Mrs. T. Purrington. Green Valley,
Superfine Flour, Percival Bros., Petaluma
Extra Flour, Percival Bros., Petaluma.
Bran, Percival Bros., Petaluma.
Rolled Barley, Percival Bros., Petaluma.
Middlings, Percival Bros., Petaluma.
Smith Club Wheat (sheaf,) Mr. Rogers, Sonoma Valley.
Club Wheat (sheaf,) Sonoma Valley.
White Australian Wheat (sheaf,) R. Crane, Santa Ana.
White Australian Wheat (sheaf,) W. K. Rogers, Sonoma Valley.
Australian Wheat (sheaf,) Page Bros., Santa Rosa Valley.
White Australian Wheat (sheaf,) A. Ducker, Sonoma Mt., Sonoma county.

White Club Wheat (sheaf,) J. A. Barham, Santa Rosa Valley.
Wheat (sheaf), Sonoma Valley.
White Australian Wheat, James Cannon, Santa Rosa Valley.
Mixed Wheat (sheaf), J. L. McClish, Russian River Valley.
White Club Wheat (sheaf), Morris Bros., Sonoma Valley.
White Australian Wheat (sheaf), J. Strong, Bennett Valley.
White Australian Wheat (sheaf), Steve C. Strong, Bennett Valley.
White Australian Wheat (sheaf), W. W. Chapman, Petaluma Valley.
White Velvet Wheat (sheaf), Page Bros., Santa Rosa Valley.
White Australian Wheat (sheaf), G. D. Green, Petaluma Valley.
White Australian Wheat (sheaf), F. Webster, Santa Rosa Valley
Defiance Wheat (sheaf), J. L. McClish, Russian River Valley.
White Club Wheat (sheaf), John Adams, Santa Rosa Valley.

White Australian Wheat (second crop in one season), Mrs. Ruth Barnes, Santa Rosa Valley.
Wheat (sheaf), H. Button, Santa Rosa Valley.
Premium Wheat (sheaf). G. N. Whitaker, Bennett Valley.
White Australian Wheat (sheaf), J. Driscoll, Bennett Valley.
White Australian Wheat (sheaf), J. R. Jewell, Petaluma Valley.
Second Crop Wheat (sheaf), J. L. McClish, Russian River Valley.
Second Crop Wheat (sheaf). T. L. Harris, Santa Rosa Valley.
Second Crop Grain (sheaf), G. N. Whitaker, Bennett Valley.
Second Crop Mixed Grain (sheaf), Mrs. Ruth Barnes, Santa Rosa Valley.

White Australian Wheat (sheaf), E. Henshaw, Big Valley.
Australian Wheat (sheaf), J. Ort, Santa Rosa Valley.
White Australian Wheat (sheaf), J. Mills & Son, Bennett Valley.

Black Oats (sheaf), S. C. Storey, Bennett Valley.
Wild Oats (sheaf), James Williamson, Santa Rosa Valley.
Wild Oats (sheaf), G. N. Whitaker, Bennett Valley.
Wild Oats (sheaf), J. T. Billings, Green Valley.

Russian White Oats (sheaf), J. H. Laughlin, Markwest Valley.
English Oats (sheaf), P. Mollally, English Hill.
Tuscany Oats (sheaf, yield 95 bushels per acre), C. F. Cook, Santa Rosa Valley.
White Oats (sheaf), Wm. Englo, Rincon Valley.
White Oats (sheaf), J. Cooney, Santa Rosa Valley.
Side Oats (sheaf), C. F. Cook, Santa Rosa Valley.
Second Crop Oats, in one season (sheaf), J. L. McClish, Russian River Valley.
Wild Oats (sheaf), Mrs. Ruth Barnes, Santa Rosa Valley.
Second Crop Oats, in one season (sheaf), Mrs. Ruth Barnes Santa Rosa Valley.
Second Crop White Oats, in one season (sheaf), Mrs. Ruth Barnes, Santa Rosa Valley.
Second Crop Oats, in one season (sheaf), T. L. Harris, Santa Rosa Valley.
White Oats (sheaf), M. Litchfield, Sebastapol.
Tuscany Oats (sheaf), yield 86 bushels per acre, Page Bros., Santa Rosa Valley.
Sheaf of Oats (sheaf), J. R. Jewell, Petaluma Valley.
Granger's Rye (sheaf) Luther Burbank, Santa Rosa.
Wild Oats (sheaf), F. Webster, Santa Rosa.
Native Wild Oats (sheaf), J. N. Talbot, Bennett Valley.
White English Oats, 7 feet (sheaf), Page Bros., Santa Rosa.
Barley (sheaf), C. S. Gibson. Petaluma.
Wild Peas (bundle), G. N. Whitaker, Santa Rosa.

Collection of 20 Varieties of Native Grasses, John Adams, Santa Rosa.

Hay (bundle), 6 feet tall (sheaf), D. G. Heald, Petaluma Valley.

Tongue Grass, G. N. Whitaker, Bennett Valley.
Mesquit Grass, G. N. Whitaker, Bennett Valley.
Alfalfa, D. O. Litchfield. Sebastapol Valley.
Native Grasses, Mrs. N. Mills, Santa Rosa Valley.
Mesquit Grass, W. Jones, Big Valley.
Native Grasses Mrs. N. Mills, Santa Rosa Valley.
Native Grasses, John Adams, Santa Rosa Valley.
Coriander, Alfram Gamble, Laguna Valley,
Alfalfa (2d crop), N. Carr Bennett Valley.
Burr Clover, with native grasses, John Adams, Santa Rosa Valley.

Chess, G. N. Whitaker, Santa Rosa Valley.
Canary Seed, John Adams, Santa Rosa Valley.

Bunch Grass, G. N. Whitaker, Bennett Valley.
Timothy Grass, G. N. Whitaker, Bennett Valley.
Tickle Gra[illegible], G. N. Whitaker, Bennett Valley.

Second Crop of Mesquit Grass, J. B. Schuobed, Two Rock Valley.
Evergreen Bunch Grass, G. N. Whitaker, Bennett Valley.
Australian Rye Grass, Ella Adams, Sebastapol Valley.
Broom Corn, R. Lowney, Santa Rosa Valley.
Evergreen Millet, S. Q. Barlow, Two Rock Valley.
Mesquit Grass, G. N. Whitaker, Bennett Valley.
Timothy, John Adams, Santa Rosa Valley.
Tule Grass, G. N. Whitaker, Bennett Valley.
Blue Bunch Grass. do. do.
Grass, Mrs. E. Webster, Santa Sosa Valley.
Wild Pea Vine, G. N. Whitaker, Bennett Valley.
Fox Tail Grass, do. do.
Bunch Grass, do. do.
Timothy, raised by J. K. Lutterell, Glen Ellen. (No irrigation.)

Yellow Dock, John Adams, Santa Rosa.
Sour Dock. do. do.

Branch of Native Coffee, Mrs. T. Purrington, Green Valley.

Sample Broom and Brush, of Sonoma broom-corn, R. Loony, Petaluma.

Mesquit Grass, E. Henshaw, Big Valley.

Ensilage, from J. R. Jewell's silo, Petaluma.

Yellow Dent Corn, L. Hall, Alexander Valley.
Yellow Dent Corn, W. J. Powell, Alexander Valley.
Yellow Dent Corn, D. Hall, Santa Rosa Valley.
Wisconsin Pop Corn, N. Carr, Bennett Valley.
Variegated Pop Corn, L. J. Hawkins, Santa Rosa Valley.
Field Corn, D. Litchfield, Sebastapol Valley.
Pop Corn, N. Carr, Bennett Valley.
Rice Pop Corn, do. do.
Pop Corn, G. N. Whitaker, Bennett Valley.
White Flint Corn, L. J. Hawkins, Santa Rosa Valley.
King Phillip Corn, M. Litchfield, Sebastapol.
Mixed Pop Corn, John Adams, Santa Rosa Valley.
White Dent Corn, N. Carr, Bennett Valley.
Yellow Dent Corn, G. N. Whitaker, Bennett Valley.
Yellow Corn, John Adams, Santa Rosa Valley.
Sweet Corn, M. Litchfield, Sebastapol Valley.
Adams Early Corn. G. N. Whitaker, Bennett Valley.
White Flint Corn, West Wood, Mark West Valley.
King Phillip Corn, C. H. Holmes. Knights Valley.
White Dent Corn, John Adams, Santa Rosa Valley.
Sweet Corn, John Adams, Santa Rosa Valley.
King Phillip Corn. H. Keepple, Bennett Valley.
White Dent Corn, L. Hall, Alexander Valley.
Field Corn, D. Litchfield, Sebastapol Valley.

Pop Corn, John Adams, Santa Rosa Valley.
Yellow Corn, L. J. Hawkins, Santa Rosa Valley.
Rice Pop Corn, M. Litchfield, Sebastapol Valley.
Evergreen Sweet Corn, E. A. Rogers, Santa Rosa Valley.
Yellow Dent Corn, W. K. Rogers, Sonoma Valley.
Field Corn, M. Litchfield, Sebastapol Valley.
Canada Prolific Beans, Mrs. Purrington, Green Valley.
Cornfield Bean, J. P. Litton, Russian River Valley.
White Navy Beans. L. J. Hawkins, Santa Rosa Valley.
White Marrowfat Beans, G. N. Whitaker, Bennett Valley.
Butter Beans, L. J. Hawkins, Santa Rosa Valley.
Bunch Beans, A. Gamble, Lagonia Valley.
Mixed Case Knife Beans, Mrs. Ruth Barnes, Santa Rosa Valley.
Fall Snap Beans, L. J. Hawkins.
Horse Beans, Sam'l Hutchinson, Los Guilicos Valley.
Bird Egg Beans, J. P. Litton, Russian River Valley.
Canada Snap Beans, J. Gregson, Sebastapol Valley.
Fall Snap Beans, L. J. Hawkins, Sonoma Valley.
Lima Beans, John Adams, Santa Rosa Valley.
Purple Beans. do. do.
Cut-short Beans, Mrs. Ruth Barnes, Santa Rosa Valley,
Early Beans, E. A. Rogers, Santa Rosa Valley.
Early Beans, Thos. Jennings, Santa Rosa Valley.
Cranberry Beans, W. Paren, Alexander Valley.
Navy Beans, M. Litchfield, Sebastapol Valley
South Carolina Pea Bean, John Adams, Santa Rosa Valley.
Black Wax Beans, G. N. Whitaker, Bennett Valley.
Chinese Snap Beans, J. P. Litton, Porter Creek.
Bayo Beans, John Adams, Santa Rosa Valley.
White Kidney Beans. do. do.
Speckled Cranberry Beans, G. N. Whitaker, Bennett Valley.
Horse Beans, John Adams, Santa Rosa Valley.
Bayo Beans. do do
Butter Beans, J. P. Litton, Russian River Valley.
Wax Beans, John Adams, Santa Rosa Valley.
Burr Pea Beans, J. P. Litton, Russian Valley.
String Beans, M. Litchfield, Sebastapol Valley.
Coes Back Beans, John Adams, Santa Rosa Valley.
Early String Beans, E. A. Rogers, Santa Rosa Valley.
Kidney Beans, N. Litchfield, Sebastapol Valley.
Peas, J. P. Litton, Porter Valley.
Marrowfat Peas, M. Litchfield, Sebastapol Valley.
Yorkshire Pea, L. J. Hawkins, Santa Rosa Valley.
Mangel Wurtzel, E. A. Rogers, Santa Rosa Valley.
Sugar Parsnip, Mrs. Ruth Barnes, Santa Rosa Valley.
White Onion, do. do.
Mixed Pumpkin Seed, W. P. Warren, Alexander Valley.
Brown Lettuce, Mrs. A. Moore, Sonoma Valley.

Castor Oil Beans, L. J. Hawkins, Santa Rosa Valley.
Mountain Sweet Mellon. do. do
Sunflower Seed, D. Litchfield, Sebastapol Valley.
Castor Beans, M. F. Purington, Green Valley.
Icing Watermellon Seed, Sonoma Valley.
Coffee Pea, Mrs. Hollister, Santa Rosa Valley.
Hubbard Squash Seed, John Adams, Santa Rosa Valley.
Cantelope Mellon Seed, Mrs Ruth Barnes, Santa Rosa Valley
Mixed Mellon Seed, W. B. Warren, Alexander Valley.
Marrowfat Squash Seed, John Adams, Santa Rosa Valley.
Australian Rye Grass, Geo Regle, Green Valley.
Carrot Seed, Mrs. Ruth Barnes, Santa Rosa Valley.
Flax Seed. do. do.
Mustard Seed, S. F. Coulter, Santa Rosa Valley.
Garlick Seed, Mrs. Ruth Barnes, Santa Rosa Valley.
Tobacco Seed, John Borrer, Santa Rosa Valley.
Big Sunflower Seed, Ella Adams, Sebastapol Valley.
Blue Grass Seed, Mrs. Ruth Barnes. Santa Rosa Valley.
Mangel Wurtzel Seed, W. P. Warren, Alexander Valley.
Turnip Beet, G. N. Whitaker, Bennett Valley.
Ruta Baga Seed, Mrs. Purrington, Green Valley.
Turnip Beet Seed, Sam'l Hutchinson. Los Guilicos Valley.
Turnip Beet Seed, G. N. Whitaker, Bennett Valley.
Oyster Plant, Mrs. Ruth Barnes, Santa Rosa Valley.
Flax Seed, G. N. Whitaker, Bennett Valley,
White Lettuce, John Adams, Santa Rosa Valley.
Carter Stratagem Pea, L. Hawkins, Santa Rosa Valley.
Red Pepper, Mrs, Ruth Barnes, Santa Rosa Valley.
Red Beet Seed, J. P. Litton, Russian River Valley.
Sorghum Cane Seed, N. Carr, Bennett Valley.
Drumhead Cabbage Seed, Mrs. Ruth Barnes, Santa Rosa Valley.
Poppy Seed, Mrs. A. Moore, Santa Rosa Valley.
Hollyhawk, do. do.
Sweet Peas, do. do.
Nasturtium, do. do.
Shot Peas, J. L. McClish, Russian River Valley.
Coriander Seed, Mrs. Ruth Barnes, Santa Rosa Valley.
Cherry Seed, Mrs. A. Moore, Santa Rosa Valley.
Apricot Seed, Martin Lewis, Santa Rosa Valley.
Pepper Tree, Mrs. Ruth Barnes, Santa Rosa Valley.
Golden Drop Plum Seed, Mrs. A. Moore, Santa Rosa Valley.
Peach Seed. do. do.
Apricot Seed, G. N. Whitaker, Bennett Valley.
White Cherry Seed, John Adams. Santa Rosa Valley.
Germau Prune Seed; Mrs. A. Moore, Santa Rosa Valley.
Apricot Seed, Martin Lewis, Santa Rosa Valley.
Hard Shelled Almonds, L. J. Hawkins, Santa Rosa Valley.
Soft Shelled Almonds. do do.

Madrone Tree Seed, Luther Burbank. Santa Rosa Valley,
Acacia Tree Seed, G. N. Whitaker, Bennett Valley,
Redwood Tree Seed. (Sequoia Sempervirens), Luther Burbank, Santa Rosa Valley.
Long Leaf Pine Seed, L. Burbank, Santa Rosa Valley,
Maple Tree Seed, L. Burbank, Santa Rosa Valley
Monterey Cypress, Mrs. Ruth Barnes, Santa Rosa Valley,
Manzaneta Berries, Luther Burbank, Santa Rósa Valley
Manzaneta Berries, J. Cnopius, Green Valley,
Blue Cypress, Mrs. Ruth Barnes, Santa Rosa Valley,
McNabb Cypress, Luther Burbank, Santa Rosa Valley,
Wild Apple, J. Cnopius, Green Valley,
California Wild Coffee seed, L. Burbank, Santa Rosa Valley,
Hazel Nuts, G. N. Whitaker. Bennett Valley,
Dried Crawford Peaches, J. T. Billings, Green Valley,
Dried Columbia Plums, J. T. Billings, Green ,Valley,
Dried Nectarines, J. T. Billings, Green Valley
Dried German Prunes, J. T. Billings, Green Valley,
Dried Apples, J. T. Billings, Green Valley,
Dried French Prunes, Chas. Range, Santa Rosa Valley,
Dried Washington Plums, J. T. Billings, Green Valley,
Dried White Muscat Rasins, W. W. German, Russian River Valley,
Dried Apricots, J. T. Billings, Green Valley,
Collection Sun-Dried Fruits, F. F. Ennis, Petaluma,
Dried Huckle Berries, Mrs. E. F. Manchester, Guerneville,
Dried Black Berries, J. T .Billings, Green Valley,
Raisins, G. Gregson, Sebastapol Valley,
Muscat Raisins, Mrs. A. Moore, Santa Rosa Valley,
Black Hamburg Raisins, Mrs. A. Moore, Santa Rosa Valley,
White Muscat Raisins, L. W. Ridenhour, Russian River Valley,
White Muscat Raisins, Mrs. H. L. Carr, Bennett Valley,
Strained Honey, G. N. Whitaker, Santa Rosa,
Silk Cocoons, Mrs McSaggart and Miss Lizzie Clark, Sonoma,
Silk Cocoons, Mrs. E. Greyson. Sebastapol,
Silk Cocoons, (Italian Variety), raised by Mrs. W. A. Woodward, and Miss H. Herman, Penns Grove,
Silk Cocoons, raised by Mrs. Purrington, Sebastapol,
Merino Wool, (one year's growth), P. Carroll, Big Valley,
Southdown Wool, (six month's growth), G. N. Whitaker, Bennett Valley,
Spanish Merino Wool, E. Woolsey & Son, Santa Rosa Valley,
Shropshire down Wool, G. N. Whitaker, Bennett Valley.
Grade Southdown Wool, Mrs. Purrington, Santa Rosa,
Shropshire and Southdown Grade Wool, G. N. Whitaker, Bennett Valley,
Specimens of Flannel, Petaluma Woolen Mills, Petaluma.

Silici Water, Mark West Springs,
Magnesia Water, do
Iron Water, do
Combination of Iron, etc. do
Sulphur Water, do
Soda Water. do
Mineral Salts, from Great Eastern Mine, Guerneville,
Silver Polish, G. N. Whitaker, Bennett Valley,

SAMPLES OF GROWTH OF FRUIT TREES.—

French Prune, (one year old, budded on an Almond), L. Burbank, Santa Rosa,
Yearling Cherry Tree, (growth of six feet, not including branches, raised by Luther Burbank, Santa Rosa, (no irrigation),
Early Crawford Peach Tree, one year old, growth of seven feet, not including branches, raised by Luther Burbank, Santa Rosa, Sonoma Co.
Honest Abe Peach, fruit very large, yellow, free-stone. Larger than Crawford, sample, one year old from bud, C. Sargent, Sonoma,
Yellow Egg Plum, growth of nine feet, not including branches, in one season, C. Sarginson, Healdsburg.
Lemon Cling Peach, growth of eight feet, not including branches, in one season, C. Sarginson, Healdsburg.
Petite Prune, growth of seven feet, not including branches, in one season, C. Sarginson, Healdsburg,
Branch of Cork Elm, M. J. Hobson, Forestville,

COLLECTION DOMESTIC PRESERVED FRUITS IN GLASS, put up by Mrs. G. N. Whitaker, Santa Rosa, as follows:

Columbia Plums,
Jefferson Plums.
Washington Plums,
Yellow Egg Plums,
Prince of Wales Plums,
Huhirg's Superb Plum,
Gov. West Cherries,
Rhubarb,
Long Red Wax Beans,
Gherkin Pickles.
Crawford Peaches,
Apricots,
Bartlett Pears,
Black Cherries,
Cherry Plums,
Blackberries,
English Gooseberries,
Sweet Pickles,
Cucumber Pickles,

COLLECTION DOMESTIC PRESERVED FRUITS IN GLASS, put up by the following:
Sweet Pickle, Mrs. E. Jameson, Petaluma.
Mammoth Gooseberries, A. L. Warner, Russian River Valley.
Red and Black Raspberries, " " "
Sartarian Cherries, M. Litchfield, Sebastopol.
Plum Jelly, Mrs. John Adams, Santa Rosa.
Apple Jelly, " "

COLLECTION OF SMALL BALES OF HAY, ETC., of the following varieties, and from contributors named:

Bermuda Grass, H. W. Beall, Lake Ralphine.
Alfalfa (5 tons per acre), H. W. Beall, Lake Ralphine.
Barley, Don Mills, Bennett Valley.
Wheat, " "
White Oak Moss, 2 varieties, Don Mills, Bennett Valley.
Wheat Straw, " "
Wild Oats, " "
Wheat, " "
Burr Clover (3½ tons per acre). J. W. Menzlee, Santa Rosa Valley.
Cultivated Oats (2½ tons per acre), J. W. Menzlee, Santa Rosa Valley.
Corn Fodder, J. Peters, Santa Rosa Valley.
California Bunch Grass, G. W. Whitaker, Bennett Valley.
California Wire Grass, " "
Rye Straw, R. E. Roberts, Santa Rosa Valley.

MINIATURE CORDS OF SONOMA COUNTY WOODS, prepared by S. J. Hawkins, Santa Rosa, as follows:

Cherry,	Plum,
Madrone,	Hickory,
White Oak,	Pepper Tree,
Willow,	White Fir,
Buckeye,	Redwood.
Pine,	Juniper,
Samarac,	Black Oak.

COLLECTION OF OAK TAN BARK FROM SONOMA COUNTY.

Tan Bark from St. Helena Valley.
" " Windsor.
" " Pocket Canon.
" " Colman.
" " Guerneville.
" " Healdsburg.
" " Duncan's Mill.
" " Green Valley.
" " Occidental.
" " Jackson Valley.
" " Eberhart's Tannery.

Tan Bark, ground, from Santa Rosa Valley.

Redwood board, 60 inches wide, Guerneville.

Bark of Redwood, A. S. Coy, Green Valley.

Curly Redwood, J. R. Simmons, Guerneville.

Knocked Down Redwood Fruit Boxes, Guerneville Box Factory.

Charcoal, G. Poyguinis, Santa Rosa Valley.

Willow Charcoal, J. L. McClish, Russian River Valley.
Charcoal, G. E. Grosse, Rincon Valley.
Wood Acid (Pyrolignous), A. C. Dark & Co., Rincon Valley; made from distillation of wood from Rincon Heights. Used to destroy phyloxera, also as a medicine, and to extract acetic acid for dying cloth fabrics, such as calico, etc. Will also make fine table vinegar and extract methylic alcohol. Process can be seen in Rincon Valley, on property of G. E. Gross, 3 miles northeast of Santa Rosa.

Wood Tar, made from distilling roots and limbs to charcoal, used for tanning, tarring rope, etc. A. C. Dark & Co., Rincon Heights.
Charcoal, from limbs of wood after distilling wood. A. C. Dark & Co.

SONOMA COUNTY AT LARGE.

Photograph of "Locust Grove," near Sonoma.
This beautifully situated and well conducted school is situated near the historic town of Sonoma.

Photographs of the Geysers, taken by Perkins, San Francisco.

Photopraph of Imported Wine Grapes, growing in the vineyard of J. H. Drummond, Glen Ellen; taken by I. W. Taber, San Francisco.

Photograph of Redwood Log, 16 feet in diameter, Guerneville.

Cinnabar Ore and Quicksilver from the "Great Eastern Mine."

Coal.

Building Stone.

Brick and Tile, Redwood Brick and Tile Co.

Collection of Petrified Woods, Petrified Forest, near Calistoga.

Collection of Minerals, from the Geysers.

Map of Sonoma County, R. A. Thompson, 1884.

Collection of Hermetically Sealed Fruits, preserved by the Petaluma Packing Co, Petaluma, Sonoma Co.

Tartarian Cherries,
White Cherries,
Royal Ann Cherries,
Egg Plums (pitted),
Small Golden Drop Plums,
Apricots,
Washinton Plum (pitted.)
Lemon Cling Peacees,
Bartlett Pears,
Crawford Peaches.

COLLECTION OF WINES from I. De Turk, Santa Rosa.
Zinfandel.
Riesling.
Brandy.

Grape Milk, Ten Oaks Vineyard, Sonoma. A. Werner & Co.

Angelica Wine, 1870, from "Linni Vineyard." A. V. La Motte, Glen Ellen.

COLLECTION OF WINES J. Gundluch, "Rhine Farm," Sonoma.
Cabinet Riesling, vintage of 1875.
Cabinet Gutedel, vintage of 1873.
Taminer, vintage of 1873.

COLLECTION OF WINES from Dusel & Co., Sonoma.
Cabinet Riesling, vintage of 1880.
Cabinet Gutedel, vintage of 1881.
Zinfandel, vintage of 1882.

COLLECTION OF WINES from Los Gilucos.
Los Gilucos Riesling, vintage of 1881.
" Zinfandel, vintage of 1882.
" Brandy, vintage of 1881.
" Brandy, vintage of 1883.

COLLECTION OF WINES from Kate F. Warfield, Glen Ellen.
Angelica, vintage of 1880.
Zinfandel, vintage of 1880.
Riesling, vintage of 1880.
Brandy.

STANISLAUS COUNTY.

This County is situated in the great San Joaquin Valley. Its western line forms the summit of the Coast Range of Mountains, while its eastern boarder rests on the foot-hills or base of the Sierra Nevadas, thus spreading across the entire width of the valley, and in area it embraces 924,800 acres. The San Joaquin River flows across the county. That stream has two tributaries, the Stanislaus and Tuolwmne, both leading westward from the Sierra Nevada Mountains.

In the eastern portion of the county, along the foot-hills, the soil is red land, which is summer-fallowed, and two crops of wheat are raised in three years ; this is excellent vineyard land. North of Stanislaus River the soil is a dark loam, some of which is adobe On the west side, or between the San Joaquin River and the summit of the Coast Range of mountains, there are some 90,000 acres of rich, arable lands, the soil being of a dark, loamy nature, and very deep, from 10 to 100 feet. Artesian water is easily obtained in the valley by boring 300 feet.

The Southern Pacific Railroad passes through the central part of the county, from San Francisco to Los Angeles.

Chili Wheat, raised by A. R. Elllot, 3 miles south of Ceres.
Propo Wheat, raised by W. Boggs, 14 miles east of Ceres,
Chili Wheat, raised by E. V. Cogswell, 12 miles east of Ceres,
Propo Wheat, raised by Daniel Whilmore, Ceres,
Snow Flake Wheat, raised by C. P. Carter, 4 miles east of Modesto,
Propo Wheat, raised by G. W. Hoffer, 10 miles east of Modesto,
White Australian Wheat, raised by W. H. Cameron, 6 miles west of Modesto,
Propo Wheat, raised by W. L. Dickerson, farm of 16,000 acres,

SUTTER COUNTY.

The Sacramento River forms nearly the whole of the western boundary of Sutter, while the Feather River, after forming nearly two-thirds of the western line, flows through the Southern part of the county into the Sacramento.

The Buttse, a collection of mountain peaks, situated in the northern part of the county, rising to a height of 1000 feet, occupying an area of four by twelve miles, constitute the hilly portion of Sutter County, the ballance of its territory being all level, and most of the soil in the county is a rich, black loam. There are in Sutter County as good and productive agricultural lands as there are in the State, producing large crops of wheat, barley, oats, corn, beans, potatoes, hops, onions, hay and all kinds of root crops. Few places in the State contain handsomer and more comfortable farm buildings than Sutter County, which fact is suggestive of the prosperity of farmers in this locality. The climate of the upper Sacramento Valley is quite hot in summer, but the nights are always cool. Vegetables and fruits of all kinds attain an immense size, on account of the rich soil, ong seasons and abundance of rain.

Propo Wheat, (winter sown), raised by T. B. Hull, 8 miles south of Yuba City: Yield 25 bushels per acre,
Pride of Butte Wheat, raised near Yuba City; Contributed by Farmers' Union, Yuba City,
Gennesee Wheat, raised by C. Newkom, 9 miles northwest of Yuba City,
Club Wheat, raised near Yuba City; Contributed by Farmers Union, Yuba City.
Club Wheat, raised by Geo. Ohleyer, 3½ miles west of Yuba City; Yield 43 bushels per acre,
White Club Wheat, contributed by Farmers Union, Yuba City,
Propo Wheat. raised by Mr. Parks, Sutter County, (raised on reclaimed land),
White Chili Wheat, Contributed by Farmers Union, Yuba City,

Pride of Butte Wheat, raised by Geo. Ohleyer, 5 miles west of Yuba City ; Yield, 35 bushels per acre,
Propo Wheat, contributed by Farmers Union, Yuba City.
Pride of Butte Wheat, raised by B. F. Frisbie ; Yield 43 bushels per acre,
Hardy Wheat, raised by J. Hardy, 3 miles west of Yuba City,
Sonora Wheat, (winter sown), raised by G. W. Carpenter, 8 miles southwest of Yuba City,
Club Wheat, raised by B. F. Frisbie, 3½ miles west of Yuba City ; Yield 45 bushels per acre ; Soil clay loam,
Chili Wheat, raised by T. B. Hull, 8 miles south of Yuba City ; Yield 24 bushels per acre,
Club Wheat, raised by John McAuslin, 7 miles northwest of Yuba City,
White Egyptian Corn, raised by T. B. Hull, 8 miles south of Yuba City,
Red Egyptian Corn, raised by R. Keck, 4 miles south of Yuba City, Sutter County,
Broom Corn, raised by B. F. Walton, 5 miles southwest of Yuba City, Sutter County,
Red Egyptian Corn, raised by B. F. Walton, 5 miles southwest of Yuba City,
White Egyptian Corn, raised by R. Keck, 4 miles south of Yuba City, Sutter County,
Sorghum, raised by R. Keck, 4 miles south of Yuba City, Sutter County,
White Ohio Beans, raised T. B. Hull, 8 miles south of Yuba City ; Yield 30 bushels per acre,
Propo Wheat, (sheaf), raised by Thos. F. McVey,
Wheat, (sheaf), raised by A. J. Spear,
Paper Shell Almonds, raised by T. B. Hull, near Yuba City,
Dried Prunes, S. R. Chandler, Yuba City.
Dried Zante Currants, S. R. Chandler, Yuba City,

TULARE COUNTY.

Tulare County has an area of 4,100,000 acres. It belongs to the great San Joaquin Valley. The topographical features of the county are made up of mountain, lake, valley, swamp and overflowed lands. About 2,000,000 acres being mountain, the highest peaks of the great Sierra Range fringe the eastern border; Mount Whitney, 15,055 feet high; Mount Williamson, nearly the same height: Mount Tyndall, 14,386; Mount Kaweah, 14,000, and others, exceeding fifty in number, of over 13,000 feet above sea-level, are grand sentinels of the Sierras, towering above all other lands in the United States. The scenery among these mountain peaks is of an inexpressible grandeur. Bright medows are in the deep valleys once filled by ice in the glacial period, and the gigantic trees, of 115 to 120 feet in circumference, and nearly 300 feet high, are found on the mountain sides at an elevation of 5000 to 6000 feet above the sea. About 1,000,000 acres of the county is broken land, with small, elevated valleys, susceptible of settlement, where the herdsmen keep their flocks of sheep and cattle in summer.

Tulare County is the sixth in size in the State of California, and has a greater area than the States of Rhode Island, Delaware or Connecticut, and nearly as great as New Jersey.

No country on the face of the earth can produce a greater variety of profitable crops than the Tulare Valley, including the foothills and small valleys in the mountains of the county. Wheat, barley, oats, rye, Indian and Egyptian corn, sorghum, millet, broom-corn, cotton, flax, alfalfa, clover and other tame grasses are here to be found growing with as great luxuriance as could be wished for. Vegetables, such as onions, lettuce, turnips, parsnips, carrots, beats and tomatoes, can be grown so as to have them fresh every month in the year, while green corn, peas, string beans, cabbage, melons, cucumbers, etc., are in the market from one to two months earlier and from two to three months later than in the Eastern States. Irish and sweet potatoes are not

strangers to the table at any season of the year. In the matter o fruits—from oranges that were awarded the first prizes at the San Diego Citrus Fair over Los Angeles and Riverside (and these latter places beat the world at the World's Exposition in New Orleans) to crab-apples, from Freneh Prunes to persimmons, from seedless Sultana grapes to gooseberries—Tulare recognizes no rival. It supplies Los Angeles with apricots and peaches two weeks before they are ripe in that widely-advertised "garden-spot of the world."

Soil Sample, from Sand Creek.
Soil 3 miles from Tulare City.
Soil, from orchard of I. W. Thomas, 1¼ miles east of Visalia.
Moorpark Apricot Seed, raised by G. Crowley, Visalia.
White Australian Wheat, raised by James Garritt, Lemoore; yield 28 bushels per acre; irrigated land; 11th crop in succession.
Sonora Wheat, raised near Lemoore; contributed by Lemoore F. M. Co.
Sonora Wheat, raised by Twaddle Bros., 2 miles east of Tulare City.
White Sonora Wheat, raised by R. Newell, 4 miles northwest of Tulare City.
White Sonora Wheat raised by J. A. Morehead, 5 miles northwest of Tulare City.
Corn (stalks), raised by E. W. Root, Tulare City.
Sonora Wheat (sheaf), raised by J. Merritt, 3 miles northwest of Tulare City; yield 35 bushels per acre.
Barley (sheaf) raised by Joseph Merritt, 4 miles northwest of Tulare City; yield 60 bushels per acre
Evergreen Millet (bundle), raised by Page & Morton, Tulare; irrigated land; 16 weeks growth.
Egyptian Corn (bundle), raised by E. Harling, Tule River, 8 miles south of Tulare City.
Sonora Wheat (sheaf), raised by W. I. Burnett, Tule River; yield 45 bushels per acre.
Sonora Wheat (sheaf); contributed by Shanklin & Pillsbury; raised on Tule River.
Sonora Wheat (sheaf), W. Allen, 5 miles north of Tulare.
Chili Wheat (sheaf), Unhorn & Maples, Tulare.
Barley (sheaf), Unhorn & Maples, Tulare.
White Australian Wheat (sheaf), Lemuel Price, Tefton.
Alfalfa in Seed (sheaf), G. T. Thornton, Cross Creek.
Canary Seed (sheaf), raised near Tulare City.

Typical Collection of Fruits, preserved in Solution
Susquehana Peach, I. A. Thomas.
Plum do. do.
Seedling Apricot, B. F. Moore, Tulare.
Egg Plum, C. I. Hall, Tulare.
Fall Winesap Apple, C. I. Hall, Tulare.
Fellenburg Prune, J. C. Lovejoy, Tulare.
Wild Goose Plum, I. A. Thomas, Tulare.
French Prunes, F. De Witt, Tulare.
Crawford Plum, F. De Witt, Tulare.

Peach Trees, one year's growth, from bud, 11 feet, I. H. Thomas, Visalia.

French Prune Tree, one year's growth, from bud, 11 feet, I. H. Thomas, Visalia.

Bartlett Pear Tree, one year's growth, from bud, 11 feet, I. H. Thomas, Visalia.

Bark of Sequoia Gigantea; contributed by J. H. Hubbs, Tulare; from a tree 26 feet 4 inches in diameter; height to first limb, 250 feet. Said limb 8 feet in diameter. Tree situated 60 miles east of Tulare, at the head of Tule River, took four men nine days to fell it.

Section of Cork Tree, I. H. Thomas, Visalia.

Section of Bark of Sequoia Gegantea, I. H. Thomas, Visalia.

VENTURA COUNTY

Is bounded by Santa Barbara and Kern counties on the north and west, on the Pacific Ocean, on the east by Los Angeles County, and includes the islands Nicolas and Anacapa. Area, 1,296,000 acres. The San Raphael range of mountains forms the northern line. The county is well watered.

In the principal valleys frost and snow are seldom seen, and little irrigation is required.

The oil of Ventura has scarcely been touched. The time is not far distant when this will be one of Ventura's greatest revenues.

Red Beans, contributed by I. H. Thomas, San Francisco.

YOLO COUNTY.

This counry has an area of 650,000 acres. Two-thirds of this is arable valley land, and the other third foot-hill land. The population is 14,000.

The Sacramento River forms the whole eastern boundary.

The soil in the valley is a black alluvium or yellow loam, and in the foot-hills is either red or brown loam. The valley lands are as rich as any in the world. The yield of grain, grass, vegetables and fruits of all kinds is excelled in no part of America. In 1884 the wheat product was 4,000,000 bushels, with an average yield of twenty-four bushels per acre. The average yield of barley was thirty bushels to the acre. This yield, twice that of the United States east of the mountains, is sufficient evidence of the fertility of the soil.

In the production of fruits, Yolo occupies a place in the front rank of California counties. Of the temperate zone fruits, apples, pears, peaches, plums, apricots, nectarines, cherries, and all the small fruits are largely produced. Of the semi-tropical fruits, oranges, lemons, figs, pomegranates, persimmons, and the table, wine and raisin grapes of southern Europe grow to perfection. Yolo County raisins took a prize at the Paris Exposition.

VILLAGE CART, made by F. A. Knox, Woodland.

This is a beatiful specimen of the wagon-makers' labors. It is perfect in every part, and is provided with Mr. Knox's patent spring that prevents the motion of the horse, so disagreeable in such conveyances, from reaching the driver.

PHOTOGRAPHS OF A WOODLAND HOME, the residence of R. B. Blowers, showing the California Pampas Grass, Palm, (Washingtonia Filamentosa), and Bunch of Grapes weighing 25 pounds; contributed by R. B. Blowers, Woodland.

Soil Sample, R. A. Grant's Ranch. 2 miles southwest of Woodland.

Soil Sample, from ranch of Webb Curtis, near Woodland.

Soil Sample from ranch of C. Eckle, 6 miles from Woodland.

Soil Sample, vineyard of M. Wychoff, 5 miles southeast of Woodland. (Soil the same to 2 feet, then loom 12 feet, then 8 feet adobe, then gravel from 2 to 10 feet thick).

White Club Wheat (sheaf), A. J. Steiner, Capay Valley; yield, 35 bushels per acre.

Mixed Wheat (White Club, Nonpareil, Snowflake, Propo and Sonora, sheaf), raised by A. J. Steiner, Capay Valley; yield, 45 bushels per acre.

Pride of Butte Wheat, Webb Curtis, Woodland; yield, 70 bushels per acre.

Propo Wheat, A. J. Steiner, Capay Valley; yield, 40 bushels per acre.

Chili Wheat (summer fallow), George Hays 3 miles north of Dunnigan.

Propo Wheat, raised by A. J. Steiner, Capay Valley; yield, 40 bushels per acre. Soil, black loam.

White Club Wheat, raised by A. J. Steiner, Capay Valley; yield, 35 bushels per acre.

Mixed Wheat (White Club, Nonpareil, Snow Flake. Propo and Sonora), raised by A. J. Steiner, Capa Valley; yield, 45 bushels per acre.

Propo Wheat, raised by H. Stelling, 6 miles east of Davisville.

Barley, raised by C. Eckle, 5 miles southwest of Woodland; yield, 50 bushels per acre.

Chili Wheat, raised by C. Eckle, 5 miles southwest of Woodland; yield 20 bushels per acre. Soil, red gravel.

Pride of Butte Wheat (summer fallow), raised by S. P. Barnes, 4 miles northeast of Yolo; yield, 30 bushels per acre.

Nonpareil Wheat (summer fallow), raised by George F. Wherry 5 miles west of Yolo Station; yield, 26 bushels per acre.

Nonpareil Wheat (volunteer crop from waste seed of last last year), raised by I. F. Nason, 7 miles northwest of Dunnigan.

Club Wheat (summer fallow), raised by George Hays, 3 miles northwest of Dunnigan.

Propo Wheat (summer fallow), raised by R. I. Pierce, 3 miles southwest of Dunnigan.

Pride of Butte Wheat (summer fallow. raised by S. S. Gibbs, Capay Valley, 6 miles west of Dunnigan.

Brown Chili Wheat, raised by J. J. De Rose, 2½ miles east of Dunnigan.

Sonora Wheat (winter sown), raised by I. W. Jacobs, 1½ miles miles of Blacks; yield 38 bushels per acre.

Nonpareil Wheat (winter sown), raised by Charles Springer, 2 miles northeast of Blacks; yield, 35 bushels per acre.

Nonpareil Wheat (summer fallow), raised by P. Quinn, 3 miles south of Blacks; yield, 35 bushels per acre.

Club Wheat (summer fallow), raised by G. Hermann, Gordon Valley, 8 miles southwest of Blacks; yield, 37 bushels per acre.

Chili Wheat, raised by C. Stahl, 10 miles west of Blacks; yield, 35 bushels per acre.

Pride of Butte Wheat (summer fallow), raised by C. L. Stahl, 10 miles west of Blacks; yield, 35 bushels per acre. Sown October, 1883; harvested July, 1884.

Alfalfa Seed, 300 lbs. per acre, N. T. King, Woodland.
Teviling Almonds, B. F. Jackson, Woodland.
Languedoc Almonds, B. F. Jackson, Woodland.
Almonds, B. F. Jackson, Woodland.
California Black Walnuts, R. B. Blowers, Woodland.

Seedless Sultana Grape Vine (growth of 1884 up to Oct. 3), 19 feet long from a vine carrying full 50 pounds of fruit which had been planted 3½ years. From N. Wychoff, 2½ miles southeast of Woodland.

Black July Grape Vine, 24½ feet long from vine 7 years old; yield, 10 tons per acre; no irrigation. From vineyard of J. Y. Dillon, Woodland.

Grape Vine, 18 feet long (6 months' growth), raised by W. B. Gibson, 1 mile south of Woodland; yield, 7 tons grape per acre.

Black Walnut Limb, 1 year's growth, R. B. Blowers, Woodland.

Pampas Grass, 1 year's growth, 10 feet high, R. B. Blowers, Woodland.

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Twelve crops of Grapes from one vine in one season, R. B. Blowers, Woodland,

Verdel Grape, R. B. Blowers. Woodland.

Seedless Sultana Grape; yield, 16 tons per acre. J. F. Dillon, Woodland.
White Muscat Grapes. J. F. Dillon, Woodland.
Zinfandel Grape. N. Wychoff, Woodland.

Collection of Raisins, from Jackson Bros., Woodland:
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Loose Muscatels.

London Layers Raisins. Briggs Bros., Winters.

London Layers Raisins. R. B. Blowers, Woodland.

YUBA COUNTY.

Is one of the basin and foot-hill counties. Its area is 393,000 acres; 175,000 are valley lands, and are largely under tillage. More than 200,000 acres are foot-hill lands. The population of Yuba county is 14,000. It is watered by Bear, Yuba and Feather Rivers and their tributaries. These streams furnish an ample water supply. Springs are abundant, and well-water is easily obtained.

Timber covers the sides of the Sierra Nevadas in the eastern portion of the county. Fuel is plentiful in every township. Sand and limestone abound in the foot-hills and mountains. Brick are made everywhere in the county. Wheat, barley, oats, corn and the whole range of vegetables are grown in the valleys and on the foot-hills. All the fruits of the semi-tropics are produced at an elevation of 1000 feet above tide water. There are thousands of bearing orange trees in Marysville, the county seat. Sicily and other kinds of lemons are grown. Fig, olive, and all nut-bearing trees flourish.

Marysville is the county seat. It has a population of 6000, and its annual trade is $10,000,000. It has extensive manufactures, embracing woolen mills, foundries, machine shops, flour mills, and factories for the manufacture of carriages, agricultural machinery and furniture.

Evergreen Millet. Orchard of J. W. Briggs, 2½ miles southwest of Marysville.
Wheat, raised by F. Kuster, near Wheatland.
Barley, raised by F. Kuster, near Wheatland.
Slickens, from Briggs' Orchard, Marysville.
Hops, raised by S. D. Woods, 2 miles from Wheatland.

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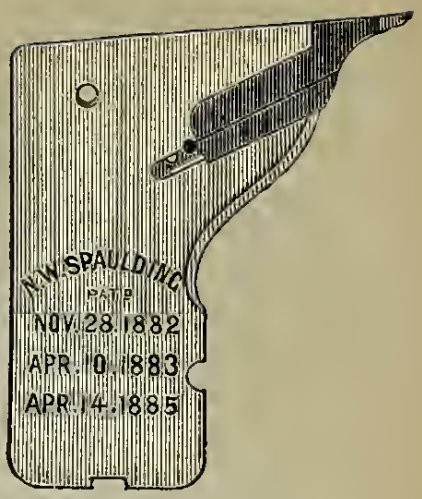
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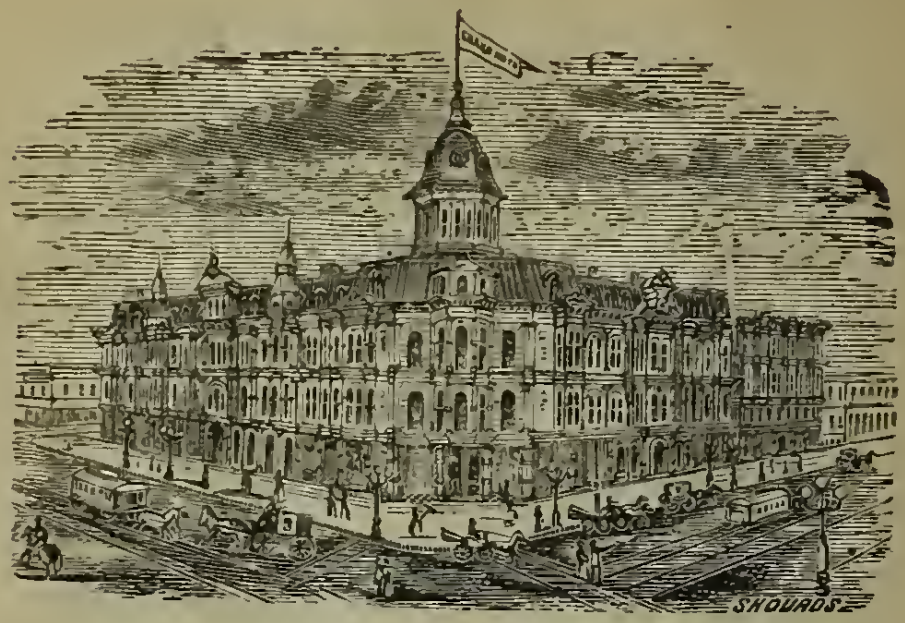
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